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ABSTRACT

Intended to help professionals remain knowledgeable about current research in reading and to serve as a relatively accessible bibliographic source of research on a specific topic, this annual report summarizes approximately 1,150 reports of reading research identified between July 1, 1983, and June 30, 1984. The summaries are arranged into six major categories. The first category lists other general bibliographies offering summaries of reading research. The second category presents summaries of studies concerned with teacher preparation and practice, while the third category contains summaries of reports dealing with the sociology of reading. The majority of reports appear in the fourth category, which deals with the physiology and psychology of reading. The fifth and sixth categories cover reports on the teaching of reading, and the reading of atypical learners. Concluding the document are a list of journals monitored for the summary (approximately 400) and an author index. (HTH)

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Summary of investigations relating to reading July 1, 1983 to June 30, 1984

SAM WEINTRAUB, HELEN K. SMITH,
WALTER J. MOORE, KATHLEEN S. JONGSMA,
and PETER J. L. FISHER

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The Annual Summaries: Useful Service?

This year, 1985, marks the one hundredth anniversary of the birth of William S. Gray, who may well be the most influential figure in the field of reading in the twentieth century. It would be difficult, indeed probably a vain effort, to attempt to identify Dr. Gray's major contribution to the field as so many of his works would rank as classics. The annual summaries would not rate in the listing of Dr. Gray's major efforts, yet they do constitute another dimension of his multifaceted scholarship.

What Dr. Gray began with the summaries, although he did not identify it as such (probably the terminology was not around at the time), was an information retrieval service. During the same time period as the annual summaries were initiated, 1925, a similar service was being undertaken for the field of research in arithmetic by Guy Buswell. However, the annual summaries of arithemtic research did not continue beyond some half dozen years for reasons now unknown. Perhaps there were not the numbers of research studies being reported to warrant an annual updating. Or possibly for some other reason the arithmetic service was discontinued. The reading summaries were carried on under Dr. Gray's authorship for some 35 years. With them, Dr. Gray established a unique index to a field. No other area in education has available all (or most) of the published research literature, categorized and accessible to its scholars in some organized manner. The categorization scheme now used in the summary is an outgrowth of Dr. Gray's original one but honed to a much sharper edge by Helen M. Robinson who was the major author on the summaries from 1960 to 1968.

The summary has been affiliated with IRA since 1961 when it moved from the *Journal of Educational Research* to *The Reading Teacher.* The summary appeared as a full issue of the *Reading Research Quarterly* with the first volume of that journal and continued in RRQ through Volume [illegible]. In the editorial prefacing the summary in Volume 1, Theodore Clymer and Edward G. Summers, editor and associate editor, wrote, "The publication of the annual summary of reading research is a significant step toward fulfilling a major goal established for the Quarterly – the dissemination of research findings, to those concerned with the field of reading." (p.3) Although the summary has appeared for 60 years, longevity is no guarantee of usefulness, and it seems appropriate to ask whether or not there is any longer a need for such a service.

In order to determine the need, one has to know what function is being performed, i.e., what is the purpose of the summary? Beginning in the 1930s, Dr. Gray prefaced each summary with the following statement:

> The discussion that follows aims merely to acquaint the reader with the type of studies reported and with the most significant findings. A study of the content of this article should be followed by a critical reading of the various studies in which each reader finds himself most interested. (1933)

Essentially, the purpose as stated by Dr. Gray is still one under which the summary functions. An abstract is provided. In that abstract will be found the following essential elements of a publication: the purpose of the study, age/grade levels and numbers of subjects, instruments used, procedures followed, and the major findings. It is intended that the user can obtain enough information to determine whether or not the original source is relevant and of interest. It is then up to the reader to evaluate the usefulness and merit of the complete research report. The summary's authors have, for obvious reasons, assiduously avoided evaluating the entries. In addition to the time involved in critiquing each research report, to have done so would have been contrary to the stated and continued purpose of the summary.

The question now becomes whether such a service is still of use or whether the summary is another anachronism in a technologically oriented world. Does an abstracting publication such as the summary still serve a worthwhile function?

In an interesting book entitled *Cogent Communication: Overcoming Reading Overload*, Bernier and Yerkey discuss the problems caused by too much print in our lives. The problem has been around for many years, particularly in science. They quote a 1963 statement by Shilling:

> It is interesting to note that as early as 1830, it had become evident that no scientist could read all of the literature, even in a limited field. To overcome this problem, a new device, the abstract journal was developed. (Bernier and Yerkey, p. 34)

At another point in their book, reference is made to the fact that readers are being overwhelmed by the amount of journal literature in their fields, a phenomenon added to by the need to read in related fields. Dr. Gray noted the interdependence of reading to other fields when he changed the title in the late 1950s from Summary of Reading Investigations to the Summary of Investigations Relating to Reading. A brief glance through the listing of the 400 some journals currently monitored for the summary underscores that interdependence among fields. The need to be familiar with the research in other fields has merely increased the literature which must be read. The argument throughout the Bernier and Yerkey book is that there is too much to read, and that we have become obsolescent professionals who become increasingly so as the literature in our area and other related areas continues to grow.

At one point in time, it was possible to keep up with all of the writing in the field of reading. Today the quantity of published research literature is of such a magnitude that no one can be conversant with all of it. An abstracting and categorizing service permits a reader to get an overview of a field rather quickly. Bernier and Yerkey submit that one of the ways in which we have approached but not solved the problem of overcoming reading overload is by means of specialization. However, they argue that specialization has led to overspecialization and that relevant material has been skipped and not read because there's no time to do so. They note that two other major approaches to the overload problem have been 1) to skip the pertinent literature and 2) to disregard it as junk or worthless and to profess disbelief in the existence of a problem.

Although they do not feel that abstracts are *the* solution to the problem, Bernier and Yerkey list abstracts as another approach used in attempting to reduce reading overload. They note that abstracts reduce the amount of reading and thereby increase the subject areas in which one can read. Abstracts also both partially organize and provide guides to the literature of a field. The major argument presented against abstracts as a satisfactory solution is that they do not cut down enough the amount of material to be covered. When combined with the need to read other abstracts along with those in the annual summaries, is there too much for the professional to read without becoming overspecialized?

Yet another question as to the relevance of the annual summary needs to be addressed: Is the work of the summary now being done by other abstracting services such as Current Index to Journals in Education? In an effort to answer that question, a comparison was made of the listing of journals monitored by CIJE and those in the current summary. Of the first 100 journals in the listing monitored for the annual summary, 49 were not in CIJE. The overlap, therefore, is not great. Further, the abstract provided in CIJE is considerably briefer and contains much less information than that provided in the summary. CIJE monitors a larger number of journals, but it is to be remembered that the focus is neither on reading alone nor on reading research in particular. The categorization systems used in the two also differ.

The summaries can be used by the reader as one means of remaining abreast of the research in the field. It is possible that a given individual could skim many entries, read more carefully those that are of particular appeal, and follow-up by reading the original sources on those which are of most immediate interest or need. For the scholar who is interested in reviewing the literature in a specific area, the annual summaries can be a starting point. However, it should be recognized that the summaries need to be supplemented by searching other sources as well if the identification of research is to be complete.

In sum, the two major functions of the summary are to aid professionals in remaining knowledgeable about the research in reading and to afford a relatively easily accessible bibliographic source of the research on a specific topic. The summary appears to be doing this in a manner not covered by other abstracting services. However, it would aid greatly if those who use it would let me know in what ways they find the summary helpful, how they use it, and what changes they feel would improve it. IRA is currently conducting a survey to aid with these questions. Additional input from readers would be most helpful and most welcome.

Sam Weintraub

REFERENCES

CLYMER, THEODORE, and SUMMERS, EDWARD G. History of the summary. *Reading Research Quarterly, 1,* (2) Winter 1965, 3.

GRAY, WILLIAM S. Summary of Reading Investigations (July 1, 1931 to June 30, 1932). *Journal of Educational Research,* 26 (6), February 1933, 401-424.

BERNIER, CHARLES L. and YERKEY, A. NEIL. *Cogent Communication: Overcoming Reading Overload.* Westport, Connecticut: Greenwood Press, 1979.

A microfiche edition of this *Annual Summary of Investigations Relating to Reading* is available. Annotated citations are provided in author and subject sequences on eye-readable, 4 X 6 cards; the full-text documents are reproduced on 4 X 6 high-quality microfiche which utilizes an exclusive image indexer. Printed author and subject indexes are included, and a demonstration workshop is available to train staff and students in the use of the collection. For further information about the microfiche edition of this *Annual Summary* or any previous *Summary*, contact the Alvina Treut Burrows Institute, Inc., P.O. Box 49, Manhasset, N.Y. 11030 (516) 869-8457.

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Summary of investigations relating to reading

*July 1, 1983 to June 30, 1984**

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SUMMARIZES approximately 1150 reports of reading research identified between July 1, 1983, and June 30, 1984. The research studies are categorized into six major areas, five of which have been further subcategorized. As in previous years, the majority of studies reported were classified into the Physiology and Psychology of Reading area. Large subdivisions under that major category include Comprehension Research and Factors Related to Reading Disability. The largest subcategories in the Sociology of Reading are concerned with the content analysis of printed materials and the use of mass media. Under the Teaching of Reading category, the subcategory Testing remains the largest. A listing of other general bibliographies of reading research appears as the first major category of the present summary.

*Mr. Peter Fisher, a doctoral candidate at the State University of New York at Buffalo, is responsible for the major work of identifying articles. Two other people help the summary to function properly. Margaret Collins is the efficient secretary, who keeps track of all the summary materials and is responsible for seeing that everything functions smoothly. Carol Roth is the dependable work study student who sees that materials are photocopied and filed. To all of those people, I am deeply indebted. Primary financial support of the annual summary is provided by the International Reading Association. Additional funding is supplied by the Alvina Treut Burrows Institute, Inc.

I. *Summaries of reading research*

Bentley, Diana, & Goodacre, Elizabeth J. *British Register of Reading Research*. No. 8. Reading, Berkshire: University of Reading School of Education, 1983.

Lists a register of ongoing research and a register of completed research in Great Britain, all by title, author, institution, year started, and type of research. Additionally, about 30 abstracts of the completed research from the register are presented.

Dieterich, Daniel J., & Behm, Richard H. Annotated bibliography of research in the teaching of English: January through June 1983. *Research in the Teaching of English*, December, 1983, *17*, 375-398.

Presents an annotated bibliography containing both published and unpublished research in the teaching of English. Entries are categorized under Language, Literature and Media Study, Writing, and Teacher Education. Within each major category, the literature is further divided by age/grade level into Preschool and Elementary, Secondary, College and Adult, and Research Reviews.

Dieterich, Daniel J., & Behm, Richard H. Annotated bibliography of research in the teaching of literature and the teaching of writing: July through December 1983. *Research in the Teaching of English*, May 1984, *18*, 201-218.

Continues the listing of research abstracts cited above but for the latter half of the year. Dissertations and ERIC research are included in both bibliographies. Research reviews are not listed under a separate subcategory here.

Ely, Donald P. (Ed.). Research abstracts. *Education Communication and Technology Journal*, Fall 1983, *31*, 182-184.

Presents abstracts of six studies in various reading areas, which are available as ERIC documents.

Goodacre, Elizabeth J. *Reading Research Review 1982*. Reading, Berkshire: University of Reading School of Education, 1983.

Presents a brief survey of research in the United Kingdom in 1982 and abstracts of research articles, books, and other sources. The research in the survey section appears under four major headings: Reading standards and tests, Dyslexia and specific reading retardation, Reading development, and Reading materials and interests.

Hunt, Peter; Humphries, Beth; & Wilkinson, Sarah (Eds.). *Children's Book Research in Britain*. Cardiff, Wales: Department of English, University of Wales Institute of Science and Technology, 1982.

Lists research in Britain related to children's books. Citations are grouped under seven major classifications. Included is research on reading interests, reading, and illustrations.

Malmquist, Eve (Compiler). *Handbook on Comparative Reading: An Annotated Bibliography*. Newark, Delaware: International Reading Association, 1982.

Annotates published and unpublished research in comparative reading under the subheadings of Methodology of Comparative Education and Comparative Reading, Studies and Descriptive Reports, and Reviews and Descriptions of the State of Art Regarding Research and/or the Teaching of Reading. Included are institutes and courses in comparative reading.

Seifert, Mary. IRA award-winning research. *The Reading Teacher*, November 1983, *37*, 164-170.

Summarizes studies which received awards at the 1983 IRA Annual Convention, and the Distinguished Research Address delivered at the award ceremony.

Weintraub, Sam; Smith, Helen K.; Roser, Nancy L.; Kibby, Michael W.; Moore, Walter J.; & Beck, Frances. *Summary of investigations relating to reading, July 1, 1982 to June 30, 1983*. Newark, Delaware: International Reading Association, 1984.

Abstracts more than 1,000 published research reports in reading. The research is categorized under six major headings: Summaries of reading research, Teacher preparation and practice, Sociology of reading, Physiology and psychology of reading, Teaching of reading, and Reading of atypical learners. Studies are further subcategorized under each of the major headings.

II. Teacher preparation and practice

II-1 Behavior, performance and knowledge, practices, effectiveness

Haskins, Ron; Walden, Tedra; & Ramey, Craig T. Teacher and student behavior in high- and low-ability groups. *Journal of Educational Psychology*, December 1983, *75*, 865-876.

Uses teacher interviews and observational data in examining differences in the behavior of teachers and pupils in high- and low-ability groups within heterogeneous classrooms. Nineteen kindergarten and first grade classrooms were included, 8 self-contained and 11 open classrooms. Only the highest and lowest ability groups were observed. High ability groups included 125 children; low ability groups, 94. A total of 80 minutes of observation per group in each classroom was made with eight minutes of focused observation on each child. Additional data consisted of teacher questionnaires. Teachers were asked a series of questions about ability grouping, including characteristics used in assigning children to groups and opinions about differences between the high- and low-ability pupils. The questionnaire required teachers to rank-order 14 characteristics for low-group and high-group children. Results showed that teachers assigned children to groups on the basis of their informal observations of the child's ability and teacher-made tests. Teachers believed there were clear differences between academic needs and behaviors of high- and low-ability children. Observational data indicated that teachers tended to teach top-group pupils in individual settings and low-group pupils as a whole group. Low-group pupils received more direct teacher verbal control and more positive reinforcement. More time was spent providing low-group pupils with direct instruction. Low-group pupils were more disruptive and more frequently off-task than high-group pupils.

Hallinan, Maureen T., & Sørensen, Aage B. The formation and stability of instructional groups. *American Sociological Review*, December 1983, *48*, 838-851.

Argues that structural and organizational constraints impede teachers as they form instructional groups that they feel are conducive to learning. Effects of structural constraints were examined using longitudinal data from 48 elementary classes in schools selected on the basis of racial composition and organizational characteristics. A total of 1,477 pupils were included with the following grade distribution: 10 fourth, 12 fifth, 10 sixth, 5 seventh, 7 fifth-sixth, 1 third-fourth, 1 fourth-fifth, 1 sixth-seventh, and 1 third-fourth-fifth. Composite reading scores for the MAT, SRA, and ITBS were transformed into equivalent scores on the CTBS in order to compare achievement test scores across schools. Instructional groups' information was collected from the reading and mathematics teachers six times during the school year; achievement test data from 798 pupils in 29 classes in a sub-sample were collected. School administered tests were the *California Test of Basic Skills* (CTBS), *Science Research Associates* (SRA), *Iowa Test of Basic Skills* (ITBS), and the *Metropolitan Achievement Test* (MAT). Analyses performed included an examination of: 1) extent of grouping in reading and mathematics instruction, 2) the basis for assignment of pupils to groups, 3) size and number of groups per classroom, 4) stability of groups over a year, and 5) effects of grouping on achievement. Pupils wer grouped for reading in 34 of the 48 classes; for math, in 21 of the classes. Groups tended to be formed on the basis of similar ability. Regardless of class size, teachers favored three ability groups in reading with little evidence that the size of the group was smaller for slower pupils; rather, there was a tendency to form equal sized ability groups. Membership in groups remained stable over the school year. The effect of grouping on change in class variance in reading scores was not statistically significant. It was maintained that ability grouping is a complex phenomenon that occurs within and must be responsive to an organizational setting. Structural constraints may mitigate intended effects of grouping and decrease positive effects on growth in achievement.

DUFFY, GERALD G. From turn taking to sense making: Broadening the concept of reading teacher effectiveness. *Journal of Educational Research*, January/February 1983, *76*, 134-139.

Summarizes past research on classroom reading instruction, focusing on the mechanistic manner of turn taking, the importance of activity flow, and the paucity of teacher explanation concerning the materials and the skills taught, and reports preliminary findings from a pilot study of teacher explanation behavior. Three teachers were observed and audiotaped six times as they taught their low-aptitude reading groups. After each lesson, the researcher gave suggestions as to how teacher explanations could be more explicit. Pupils were interviewed on their awareness of what they were learning, why that learning was important, and how they were to do the tasks. Children were also tested with the *Woodcock Reading Mastery Test*. Pupil awareness and achievement were compared with teacher explanation behavior. Five characteristics of effective teacher explanation emerged. Teacher explanation includes: explicit information about what is taught and why it is important, clear explanations of how to do the task, monitoring of students' cognitive processing during turn taking, cohesive linkings across lessons, and perceptions of what the outcomes of instruction will be.

STERN, PAULA, & SHAVELSON, RICHARD J. Reading teachers' judgments, plans, and decision making. *The Reading Teacher*, December 1983, *37*, 280-86.

Summarizes research findings on how teachers' judgments, instructional planning, and interactive decision making affect their behaviors during reading instruction, and discusses implications for reading educators. It was noted that teachers have a large amount of information about their students before they make judgments; information is gathered from many sources and integrated. Judgments are altered as necessary. Teachers are accurate in making global judgments of human abilities and achievement but less accurate in their judgments and diagnoses of reading. In their planning, teachers tend not to plan in the way they were trained. Most planning appears to be unsystematic and general. Decision making usually occurs when a routine is not going as planned. Teachers focus on fine tuning of their original plans. Teachers need to be made aware of their judgments, decisions, and plans, and need to seek accurate information on which to make these decisions.

Malcolm, Ian G. The discourse of the reading lesson: Sociolinguistic observations in Aboriginal classrooms. In Thelma Bessell-Browne, Ross Latham, Noelene Reeves, & Elizabeth Gardiner (Eds.) *Reading into the 80's.* Adelaide: Australian Reading Association, 1980, 81-97.

Reports a study of 11 class sessions in which teachers engaged in reading instruction with Western Australian Aboriginal children. Transcriptions of each class session were divided into sequences and analyzed according to the functions which speech acts perform in classroom discourse: eliciting, bidding, nominating, replying, informing, directing, acknowledging, and noninteractive. Observations were of regular, not specially prepared lessons. On 10 of the 11 occasions, lessons involved reading aloud. The factor with most bearing on the discourse patterns was whether the teacher was eliciting a choral or an individual response. Reading lessons differed from other classroom lessons in that teachers performed more nominating acts and children performed more replying acts than in other situations. Teachers were concerned with regulating the kinds of responses they wanted in terms of their form, their timing, their volume, and their sender. The children's roles were laid out for them by the teachers' roles.

Taylor, Janet B. Influence of speech variety on teachers' evaluation of reading comprehension. *Journal of Educational Psychology*, October 1983, *75*, 662-667.

Investigates how differences in speech varieties, standard English and Black English, used during an oral reading and recall task, influenced teachers' evaluations of reading comprehension, and how teachers' attitudes toward Black English related to these evaluations. Volunteer primary level teachers (n = 72) in South Carolina and Florida were randomly assigned to one of two treatment groups. All participants were provided with one of two selected sample tapes, a written transcription of a story read on the sample tape, a set of written instructions, and an evaluation sheet. The experimental tape presented the oral reading and recall of a Black English second grade boy, and the control tape was a second grade standard English speaking boy. Both boys had been receiving instruction in 2.2 reading level materials. Careful analysis of the two readers showed no difference on their retelling scores and similar performances in other areas. All subjects were told to listen to the entire tape and make any notations deemed necessary on the written transcription sheet provided. Results indicated that Black English readers were rated lower in reading comprehension than equivalent standard English readers when teachers held a negative attitude toward the Black English language.

Haller, Emil J., & Davis, Sharon A. Teacher perceptions, parental social status and grouping for reading instruction. *Sociology of Education*, July 1981, *54*, 162-174.

Seeks to ascertain in the context of reading group assignment decisions made by 37 fourth, fifth, and sixth grade elementary teachers, what attributes of children are viewed as relevant to such assignments, what relationships exist among these perceived attributes and pupils' reading abilities and the socioeconomic status (SES) of the family, and what the relative effects of these attributes are in making group assignments. During an interview setting, teachers were asked to sort names of their pupils into three reading groups and to explain why each child was being placed in a particular group. Percentile scores on the *Iowa Test of Basic Skills*, and SES data were also collected. Teachers' comments were recorded and categorized into five major groups according to meaning and also were classified as being positive, neutral, or negative in affective tone. Generally, it was found that decisions most often reflected achievement-related criteria and were related to pupil reading test scores more strongly than to pupil family SES. Regression analyses were executed on correctly grouped and misplaced assignees, those who were placed in higher or lower groups than test scores indicated as appropriate. These analyses did not suggest that parental SES had substantial influence on assignments.

Bohning, Gerry, & Thompson, Richard A. Teachers' perceptions of quantity of time for teaching reading. *Florida Reading Quarterly*, December 1983, *20*(2), 41-43.

Compiles reports from 148 teachers in public and private schools, elementary, middle, junior, and senior high levels, who voluntarily maintained records of their reading instructional time over a week's period. The form included amount of time scheduled for reading, actual teaching time, content of the lessons, and the reasons for not using the scheduled reading time. These latter were classified as interruptive events and coded into nine descriptive categories. Respondents indicated that 93.3% of total time scheduled for reading instruction was used for teaching reading. Actual instructional time was 364.64 minutes weekly. Interruptive occurrences caused a mean loss of 5.22 minutes daily for the five-day working week. Categories of interruptive events which appeared to have good possibilities for reduction of occurrence, thus increasing actual teaching time, were administrative and procedural routines, schedule timing, and communications.

Kurth, Ruth Justine, & Greenlaw, M. Jean. Research and practices in comprehension instruction in elementary classrooms. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 38-41.

Investigates the teaching of reading comprehension in elementary classrooms through an observational study. Teachers (n=16) from grades K, 2, 4, and 6 were observed on three consecutive days during 60-minute periods of reading instruction. An instrument adapted from a previous study was utilized, in which comprehension instruction was divided into seven categories: assignment checks, application, helps with assignment, prediction, preparation, strategies, and review. Additional categories of 'assessment' and 'gives assignment' were also included. For all grade levels, 32% of instructional time was spent on some form of comprehension instruction, 35% on teaching structural and phonic analysis, and 19% on transitional and instructional activities. Time spent on each category varied across the grades, with 6th grade spending the most, and kindergarten the least, on comprehension activities. The largest percentages of comprehension instruction time were spent on assessment, application, and assignment checking. It is argued that very little direct instruction on comprehension occurs in elementary classrooms.

Gaug, Mary Ann. Reading acceleration and enrichment in the elementary grades. *The Reading Teacher*, January 1984, *37*, 372-376.

Defines reading accleration as the practice of using a reading textbook designed for a higher grade level, and enrichment as comprising those activities that broaden the presentations in a given grade's textbook, but not at a higher reading level than the designated grade. Questionnaires were sent to 214 K-6 classroom teachers in 12 elementary schools. Data are based on a total of 116 usable returns. Over half (54%) checked that they provided enrichment activities for their high ability group; 46% were satisfied with the present basal text placement of their high ability readers; and 67% replied that high ability readers should be allowed to use a reader designed for a higher grade level; and 100% responded affirmatively when asked if high ability readers should be given enrichment activities.

Hill, Charles H. Round robin reading as a teaching method. *Reading Improvement*, Winter 1983, *20*, 263-266.

Surveys fifth grade teachers (n = 80) and pupils (n = 1,484) concerning practices and perceptions relative to round robin reading. When asked how frequently the procedure is used in social studies or science instruction, 46% indicated daily use and another 51%

reported that it was used at least three times a week. It was felt to be of great value in learning by 65% of teachers, and 58% felt that their pupils like it. Almost all teacher respondents indicated that round robin reading aided retention. When asked where they had learned the technique, 46% wrote that they followed the pattern of other teachers in the building, and 40% stated that they had been taught to do it during student teaching. Children were asked four questions paralleling those given to the teachers. Of pupil respondents, 48% checked that round robin was done daily in their classrooms and 42% checked that it was done about three days a week. Children felt that round robin reading aided their learning (62%), that reading out loud was a source of pleasure (63%), and that they listened attentively during the practice (60%).

HILL, CHARLES H. Oral reading as a content area teaching method. *The Clearing House*, October 1983, *57*, 56-58.

Surveys 53 principals, 80 fifth-grade teachers and their 1,484 pupils relative to the use of round robin reading (RRR) as a means of teaching in the content areas. For teachers, 46% indicated daily use of RRR in social studies and science, with another 51% indicating it was used at least three times a week. Pupil responses to this question were similar. Sixty-five percent of teachers and 62% of pupils felt that RRR was of value in learning. Nearly all teachers who used RRR felt that it aided retention. Seven principals denied that RRR practices existed in their buildings, although both observation and collected data in the survey would belie these administrative assertions.

HODGES, CAROL A. Reading comprehension instruction in the fourth grade: Three data-gathering methods. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 110-116.

Investigates teachers' understanding of reading comprehension and their approaches to reading comprehension instruction. Fourth grade teachers (n = 44) responded to a questionnaire concerning the length, organization, and nature of their reading instruction and the materials used, and also concerning their concepts of comprehension, sources of information and assessment procedures. Twelve of the teachers were subsequently interviewed, and four of these and four of the original sample were observed for three days during classroom instruction in reading. Among the findings reported are that many teachers have their reading periods scheduled by extraneous factors; the teaching of literal comprehension is viewed as the most important instructional activity; the majority of teachers use a basal series as the core of their program; oral reading followed by oral questions was the most widely used teaching method; comprehension was most frequently defined in terms of the skills associated with it; the basal teachers' guide ranked first as the source of comprehension information; and oral questioning was the most common form of comprehension assessment.

GREENLAW, M. JEAN, & KURTH, RUTH JUSTINE. Current research and analysis of definitions of comprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 36-38.

Investigates teachers' preferred definitions of reading comprehension through the administration of a questionnaire containing eight definitions representing different theoretical positions. Subjects, who were elementary school teachers (n=101) and secondary school teachers (n = 46), were asked to rank the definitions in the order of their agreement with them. Definitions reflecting the substrata factor model and the intellectual functions model were most popular among all teachers. Patterns were similar for elementary and secondary teachers.

METHENY, WILLIAM. The influence of grade and pupil ability levels on teachers' conceptions of reading. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 232-237.

Investigates elementary school teachers' conceptions of reading in relation to pupil's reading ability level and grade. Subjects were first (n = 8) and second (n = 1) grade teachers who grouped their students for reading instruction. Each teacher was asked to state her reading beliefs for five groups of readers according to eight criteria: 1) criteria for judging pupil reading success, 2) criteria for selecting materials, 3) criteria for forming instructional groups, 4) time allocation to reading activities, 5) time allocation to pupils, 6) favored word recognition prompts, 7) comprehension emphasis, and 8) favored instructional role. Statements were collected for the teacher's lowest reading group, for a classroom of a different socioeconomic background, for the teacher's highest reading group, for an upper elementary-grade classroom, and for the teacher's current classroom as a whole. Statements the teachers made about the upper-grade readers, top-grade readers, and high-SES readers differed dramatically from statements about the low-group readers. The acquisition of basic word-attack skills as a prerequisite to more complex reading experiences was a generally held belief. The kind of comprehension instruction needed was seen as related to reading-ability level. Other findings are also reported.

MEYERS, RUTH S., & RINGLER, LENORE. Teacher interns' conceptualization of reading theory and practice. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 238-242.

Investigates the way in which teacher interns conceptualize reading in theory and practice. Subjects (n = 60), who were enrolled in Master's degree programs in reading, wrote brief responses to general questions about the reading process, and then examined a case study of a child achieving below grade level in reading. Data in the case study were designed to be ambiguous. Students listed their diagnostic hypotheses and intervention strategies in order of importance. Written responses were categorized as reflecting either a top-down, a bottom-up, or an interactive model of reading. Responses reflecting each of the models were 10, 20, and 30, respectively. The diagnostic analyses and recommendations were similarly categorized, and responses reflecting each of the models were 2, 40, and 18, respectively. There was no significant relation between stated concepts and case study analyses. The majority of the group who indicated a bottom-up approach to diagnosis and teaching were experienced teachers. Inexperienced teachers were consistent in their use of an interactive model.

PACE, ANN JAFFE, & POWERS, WANDA C. The relationship between teachers' behaviors and beliefs and students' reading. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 99-115.

Reviews research concerning the relationship between teachers' behaviors and beliefs and their students' reading. Studies are discussed under the headings: 1) Characterizing classrooms and teaching; 2) Teacher expectations; 3) Situational influences on students' reading; 4) Teachers' beliefs about reading; and 5) Ethnomethodological studies of classroom interaction. Common themes and emphases are the importance of context; the role of social interaction; the negotiation of meaning; and the conceptions of task, situation, self and others which students and teachers bring into their classrooms. It is concluded that while there is consensus on the important questions to ask, answers to those questions were not available in the research.

Crawley, Sharon J., & Mountain, Lee. Do teachers' values differ from the values they identify in basal readers? *The New England Reading Association Journal*, Autumn 1983, *18*(3), 17-21.

Ponders possible conflicts of teachers' personal *instrumental* values, such as being ambitious, polite, or cheerful, and personal *terminal* values, such as peace, friendship, and pleasure, with those values they perceived as being presented in the basal readers from which they taught. Not all 37 teachers in grades K-3 and 4-6 used the same basal series. Likert scales were employed in collecting data. Teachers ranked their own personal values as they perceived them as well as those they believed were being presented in the readers. Differences were analyzed using correlated t-tests, with significant differences being found to exist between personal values held by K-3 teachers and those found in basals. There were greater differences between teachers' personal instrumental values and the instrumental values they identified in grades K-3 and 4-6 materials. There was but one area, *capability*, in which there was a significant difference between the personal instrumental values of grades 4-6 teachers and the values they identified in basals. A perfect match (mean difference of 0) was noted between teachers' personal value of *cheerfulness* and the degree to which they identified *cheerfulness* in the readers. There were significant differences between the terminal values of K-3 teachers and the terminal values identified in readers. In only one area, *religious life*, did the personal terminal value of teachers in grades 4-6 differ significantly from those identified in basals.

Hanes, Madlyn Levine; Hanes, Michael L.; & Curtis, William J. Teachers' attitudes about psycholinguistic issues in reading: Implications and strategies for inservice training. *Reading Improvement*, Winter 1983, *20*, 303-309.

Assesses the extent to which a group of 239 kindergarten through grade 12 teachers agreed with the statements on *Twelve Rules for Reading Teachers*. The 12 precepts were stated in a five-point Likert scale format and were distributed as part of a comprehensive district-wide needs assessment. Data were analyzed in three phases. First, they were tabulated to obtain an overview of response patterns. Second, grade level by item repeated measures analysis of variance was conducted to determine grade level differences. Third, a factor analysis was performed to determine if responses represented one generalized belief or sets of differentiated beliefs about reading. Responses were tabulated separately for elementary and secondary teachers. Generally, teachers disagreed with the tenets of the psycholinguistic position. Of the 12 statements, two items (teaches letters or words one at a time, and seeking word-perfect reading) were the only ones on which a majority of the elementary teachers did not agree. Secondary teachers strongly agreed with all items, except seeking word-perfect reading, where their answers were evenly distributed. Upper level teachers tended to agree more strongly with the instrument than lower grade teachers. Three distinct factors were found to be represented in the teacher responses: diagnosis and prescription, sequence and importance of mastery of early reading skills, and accurate oral reading.

Groff, Patrick. Another judgment of phonics. *Wisconsin State Reading Association Journal*, Summer 1983, *27*(4), 15-16.

Assesses 250 teachers enrolled in inservice post-graduate education courses as to opinions concerning Bettelheim's and Zelan's views on phonics and word recognition as espoused in their book, *On Learning to Read*. Teachers indicated their degree of agreement with these views through the use of a five-point scale. Nineteen percent agreed with the statement that today's basals concentrate solely on teaching decoding skills. Twenty-three percent indicated strong agreement with the statement that educational practices run directly counter to the theory that reading ought to be taught for meaning.

GROFF, PATRICK. Teachers and Bettelheim on reading. *Florida Reading Quarterly*, December 1983, *20*(2), 24-27.

Assesses 250 inservice elementary school teachers to determine their opinions concerning 13 statements selected from Bettelheim's and Zelan's views of reading instructional practices as stated in *On Learning to Read*. These teachers, 60% primary, 32% intermediate, and 7% grade seven or above, had a range of one to 33 years of teaching experience, with a median of five years. Using a 5-point scale, they indicated degree of agreement with the 13 statements. Nine of the 13 statements were reacted to negatively by 50% or more of the teachers. Three of the statements focusing on oral reading received less negative response, as did one item assessing the degree of emphasis on word recognition rather than meaning in reading programs.

KINZER, CHARLES K., & STONE, RUTH J. A comparative study of educators' perceptions and use of mandated reading assessments. *Reading Horizons*, Fall 1983, *24*, 64-68.

Collects data on the perceptions of 36 Puerto Rican educators about their attitudes toward standardized tests and the impact of standardized testing programs in their regions. A 43-item questionnaire was translated and modified before being distributed to 25 representative Puerto Rican schools. In each school, principals and second- and fifth-grade teachers were asked to respond. A 48% questionnaire return included results from 14 principals, 11 second-grade, and 11 fifth-grade teachers. Puerto Rican data were compared with the California data collected in 1981 and 1982 on 30 educators. Respondents across both regions felt that standardized testing programs in reading were useful and important, but Californians were less responsive to frequent test administration. More Californians than Puerto Ricans felt that tests were strongly related to curriculum. Both groups reported little impact of testing on budgeting or inservice planning, but considerable impact on planning classroom instruction and district curriculum planning, although there were differences between the groups. Perceptions of how the goals of the testing program were being met differed across the groups, with Puerto Ricans feeling their goals were being accomplished more than did the Californians. Overall, more principals than teachers felt goals were being fulfilled. California teachers and principals were more comfortable with standardized tests than were the Puerto Ricans. Puerto Rican teachers placed more faith in their own teacher-made tests and criterion-referenced tests for province-wide, school-wide, or classroom situations.

THOMAS, JUNE. Teachers' analyses of strategies employed in miscomprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 104-106.

Investigates teachers' understanding of strategies employed by readers when they are unable to comprehend material. Teachers who were also graduate students (n = 23) used the *Auburn Informal Reading Survey* with 45 children from first through ninth grades, and analyzed the children's comprehension strategies. A second group of graduate student teachers (n=13) performed a similar task using the *Sucher-Allred Reading Placement Inventory*, with 26 children from second through sixth grade. The researcher and two other reading experts independently analyzed teachers' explanations of children's miscomprehension strategies, using categories adapted from previous research.

Five categories were generated from teacher explanations. Miscomprehension was generated by word recognition difficulties (22 teachers), by the kind of question asked (26 teachers), by inhibiting reader characteristics (17 teachers), and by the child's approach to the task (19 teachers). The fifth category was nonspecific (26 teachers), where no insight into the reasoning strategies of the reader was given.

Hare, Victoria Chou, & Pulliam, Cynthia A. College students' metacognitive awareness of reading behaviors. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 226-231.

Investigates undergraduate students' awareness of their own reading behaviors while reading an article. Subjects, 66 preservice teachers enrolled in reading methods courses, were administered the *Nelson-Denny Reading Test*, and requested to monitor their own reading behaviors as they read a journal article. Retrospective written protocols were collected and categorized by two judges. Multiple regression analyses were performed on the nine most frequently mentioned behaviors to fit an equation that would explain the standardized test scores. An additional behavior variable, which was the number of behaviors mentioned in the protocol, was added. This variable plus reading for meaning, rereading, selectively reading, and adjusting reading speed explained 59.82% of the variation in the standardized test raw score. Significance levels for each variable were: meaning, $p < .01$; reread and speed, $p < .05$; and select and behavior, $p < .10$ with the behavior variable eliminated, 58.6% of the variation in raw scores was explained, and the four variables were significant at the .01 level.

Rupley, William H., & Blair, Timothy R. Specification of reading instructional practices associated with pupil achievement gains. *Educational and Psychological Research*, Summer 1981, *1*, 161-169.

Reviews and analyzes research into teacher effectiveness, especially pertaining to reading instruction. Four areas are identified and reviewed: 1) diagnosing pupils' reading strengths and weaknesses, 2) structuring reading activities around a direct instructional format, 3) providing pupils an opportunity to learn and apply skills in actual reading tasks, and 4) assuring that pupils attend to the learning task. Among the conclusions from the research synthesis are: 1) integration of diagnosis and instruction leads to greater reading achievement; 2) teachers employing a direct-instruction format in teaching reading have been identified as effective; 3) teachers who specify outcome-reading behaviors prior to teaching and who present content relevant to these outcomes have pupils who achieve at higher levels than do teachers who do not specify outcome behaviors prior to instruction; and 4) effective reading teachers attended to engaging pupils in active learning from materials.

Spiegel, Dixie Lee, & Wright, Jill D. Biology teachers' use of readability concepts when selecting texts for students. *Journal of Reading*, October 1983, *27*, 28-34.

Reports findings of a questionnaire survey mailed to 1,500 subscribers to a professional journal for science teachers. Final data are based on responses of 622 high school biology teachers. The questionnaire was designed to discover the teachers' willingness to use lower readability level texts, to determine text characteristics used by teachers in identifying an easier to read passage, and to note the reasons for selecting a harder or easier version of a text with a specific ability-level group. Teachers were sent two pairs of passages, one technical and one nontechnical in content, along with identical questionnaires for each pair. The easier passages were identified correctly by 83% and

87% of teachers for the technical and nontechnical passages, respectively. For the technical passage, 70% stated they would use the more difficult passage with college preparatory students, 19% with average students, and 1% with below average. Results for using the harder version of the nontechnical text were 90%, 47%, and 6%, respectively, for college prep, average, and below average groups. The factors most frequently identified as affecting readability were vocabulary (84%), sentence and paragraph structure (82%), succinctness (39%), concept depth (26%), concreteness (14%), concept load (11%), and affective concerns (6%). Number of reading courses and amount of teaching experience had little effect on questionnaire responses.

WESTERMARK, TORY I., & CRICHLOW, KARL A. The effect of theoretical and situational knowledge of reading on teachers' estimates of readability. *Reading Psychology*, April-June 1983, *4*, 129-139.

Investigates whether teachers who possess theoretical and situational knowledge of elementary reading instruction are more accurate in estimating the readability levels of materials than in-service teachers who possess situational knowledge from teaching experience, pre-service teachers who possess only theoretical knowledge, and pre-service teachers who possess neither theoretical nor situational knowledge of reading. Subjects were 72 students enrolled in undergraduate classes at a Canadian university, 36 of whom had taught an average of 7.8 years. Passages taken from the *Diagnostic Reading Scales* were given to the subjects, who were asked to estimate for which reading levels the passages were appropriate. Deviation scores, the difference between the subjects' estimates and the stated readability, were calculated. No significant differences were found in the groups' accuracy of judgments of readability levels. Variability in subjects' responses across tasks suggested that subjects were more accurate in estimates of primary passages than intermediate passages.

ASKOV, EUNICE N.; KAMM, KARLYN; KLUMB, ROGER W.; & BARNETTE, J. JACKSON. Study skills mastery: Comparisons between teachers and students on selected skills. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 207-212.

Investigates the study skills abilities of adults and children. Subjects were elementary school teachers ($n = 65$), graduate students ($n = 77$), preservice undergraduate students ($n = 432$), and ninth grade students ($n = 96$). Subjects were administered Level G test of the *Wisconsin Design for Reading Skill Development*, which assesses mastery of map, graph and table, and reference skills. Data were analyzed separately for each of the 10 study skills included. Ninth graders scored lower than the other three groups on all the skills tested ($p < .001$). Elementary teachers scored lower than undergraduate and graduate students in solving problems on schedules or tables ($p < .05$), and lower than graduate students on the use of the Readers' Guide ($p < .05$). Mastery level required for each test is 80%, which was achieved by graduate students as a whole on only three skills, and undergraduate students as a whole on only one skill. Elementary teachers and ninth graders as groups achieved mastery on none of the skills tested.

LEINHARDT, GAEA. Novice and expert knowledge of individual student's achievement. *Educational Psychologist*, Fall 1983, *18*, 165-179.

Compares novices (11 observers who had spent 50 hours of observation in reading instruction classrooms for the learning disabled over a two-year period) and experts (11 teachers who were currently teaching the students in the classrooms under study) on their ability to estimate the degree of overlap between the curriculum children had been exposed to and the criterion test, the *California Test of Basic Skills* (CTBS), used to assess their performance. Subjects were given a copy of the reading subtest of the standardized achievement test and were asked to go through the test and report whether a child had sufficient instruction to get an item correct, i.e. to recall their instruction and to speculate on its relevance for the criterion tasks. This task was completed for each child in the class (usually 12 students). For two of the children, the subjects were asked to think aloud on 20 items and to give their rationale for their decisions. In addition, four of the best teachers and three of the novice observers (one a former LD teacher, one a former classroom teacher, and one with no teaching experience) were asked to discuss their thoughts while completing the analysis of the overlap task. Overlap scores were obtained, percentages of hits of agree/disagree between estimates and students' actual performance were determined, and protocols were transcribed and analyzed for themes, explanations, reasons used, materials referred to, sources of instruction, student strategies, and explanations for predictions. Overlap estimates of experts and novices were closely clustered, with both groups estimating a slightly higher overlap between instruction and performance than actually occurred. Novices were less than one-half standard deviation below experts in their accuracy as revealed by hit scores. Teachers' estimates and hits were related more closely to actual performance than were novices, and their scores were higher for the classroom high achievers. Teachers gave more explanation and analysis on protocols than did novices so that protocols differed both quantitatively and qualitatively.

FRAGER, ALAN M. How good are content teachers' judgments of the reading abilities of secondary school students? *Journal of Reading*, February 1984, *27*, 402-406.

Investigates the accuracy of 53 content teachers' (31 English; 22 social studies) judgments about the reading abilities of secondary school students and explores the relationships between the types of information content teachers use for making their judgments and the accuracy with which they make these judgments. Subjects viewed a videotape simulation of three ninth graders of varying reading abilities engaged in oral and silent reading situations, in responding to teachers' questions, and in writing. While viewing the videotape, content teachers recorded their observations on a checklist of 45 skills and factors related to reading ability. Judgments of strengths and weaknesses were compared to the results of a criterion diagnosis conducted by four expert secondary reading diagnosticians. Content teachers were judged on the accuracy of their evaluations of overall reading abilities, as well as their judgments of five subareas: oral reading, study skills, vocabulary knowledge, comprehension skills, and physical and attitudinal factors. Fifty-nine percent of the content teachers' judgments matched the criterion diagnosis. Eight categories emerged in the teachers' judging of students' reading abilities: physical (14%), emotional (5%), languaging (32%), word level (9%), comprehension (16%), study skills (6%), writing mechanics (10%), and writing content (8%). No significant relationships were found between these information types and judgments of reading abilities; no combination significantly predicted the accuracy of their judgments. Observation of comprehension behaviors was significantly related to judgments about comprehension skills, vocabulary knowledge, and physical and attitudinal factors. A negative relationship was found between the observations of comprehension and the teachers' judgments of oral reading skills.

DAVIS, VIRGINIA. Canadian children's literature—Where is it? *Education Canada*, Fall 1983, *23*(3), 16-19.

Cites research indicating that Canadian classroom teachers know little about Canadian children's and young people's literature and suggests possible correction factors to overcome this lack of knowledge. Among the contributing factors to the limited knowledge base are: today's Canadian teachers did not grow up reading Canadian authors and illustrators but were reading British and American collections; educational leadership has not pushed the use of Canadian literature; journals reviewing Canadian titles have not been financially successful or abundant; teacher training programs have not stressed preparing Canadian teachers in Canadian titles; and teacher training programs have not stressed promoting the uniqueness of Canadian life.

Baumann, James F. Six principles for the development of reading comprehension instructional methods and materials. *Reading Improvement*, Fall 1983, *20*, 187-192.

Examines the accumulating body of research on teacher effectiveness and comprehension instructional strategies. Based on the research, the author proposes six principles for the development of reading comprehension instructional methods and materials: 1) teach relevant skills, 2) proceed from simple to complex, 3) provide enough instruction, 4) administer direct instruction, 5) provide teacher-directed application, and 6) require independent practice.

II-2 Attitudes toward reading

Bibby, Bob. Teachers and their books. *English in Education*. Summer 1983, *17*(2), 1-6.

Reveals extent of fiction-reading habits of 37 secondary teachers in Great Britain. Respondents completed questionnaires originally mailed to 104 teachers in two urban comprehensive schools. The author postulates that the 37 respondents may not be typical of the teachers in the two schools in terms of their fiction-reading habits. All but two of the respondents had studied English Literature at the O level, and 16 had studied to A-level standard. Of the 87 titles listed as having been read during the month prior to the beginning of the investigation, 57 came from the "nonquality" category. Over the five-month reading period studied, the normal pattern of fiction reading was 1-2 books a month.

Chin, Beverly Ann, & Hesse, Karl D. A summary of studies assessing secondary teachers' attitudes and perceptions of competency in content area reading instruction. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 45-48.

Investigates secondary teachers' attitudes and perceptions of competency in content area reading instruction. Twenty-seven competency statements were developed through a review of professional literature and submission to a panel of teachers and reading experts. Each statement was administered in the form of an attitude statement on one battery, and a competency statement, in the form "How qualified are you . . . ?," in a second battery. Results of previous dissertation studies are reported with data from a new study. Subjects were preservice and inservice secondary teachers (n = 210). Amount of teaching experience influenced teachers' perceptions of competency ($p < .01$) but not attitudes towards content area reading instruction. Preservice and inservice teachers did not differ on attitudes, but did differ on perceived competency ($p < .01$). Training in the teaching of reading had a positive effect on attitudes ($p < .05$), and preservice teachers perceived themselves as having increased in competence to a greater degree than inservice teachers after training ($p < .01$).

Dillingofski, Mary Sue, & Dulin, Ken L. Changes in reading-related attitudes during a one-semester preservice course in secondary reading methods. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 223-225.

Investigates the effect of a one-semester preservice course in secondary reading methods on the participants' attitudes toward teaching reading in the content area, toward personal leisure-reading, and upon the number of leisure-reading books read. Subjects (n=48) were pre- and posttested on a behavioral reading attitudes, measure (BRA), and a measure of attitudes to teaching reading in the content area (TRCA). The number of leisure-reading books read during comparable time segments of the semester was determined. The course was taught twice weekly for one-hour periods, and included book-sharing sessions each week. Group mean scores increased on the TRCA measure ($p < .001$). Mean number of books read also increased ($p < .04$). Students with "academic" teaching majors had an increased mean score on the TRCA measure ($p < .007$), as did "nonacademic" teaching majors ($p < .03$). This latter group also read more books ($p < .05$). Students whose pretest scores were in the lower half of the TRCA measure showed a higher posttest gain than students in the top half ($p < .05$).

Wisneski, Phillip D., & Wallbrown, Fred H. The relevance of attitudinal variables for reading remediation. *Reading Improvement*, Winter 1983, *20*, 278-281.

Ranks written descriptions of the eight dimensions of reading attitude measured by the 92-item *Survey of Reading Attitudes* as to the dimensions' importance for remediation. Mean ranks for 8 reading consultants and 28 reading teachers from an urban school district were compared. All personnel had assignments at the intermediate level, grades 4-6. Significant differences were found between the rankings of the teachers and the consultants on three of the eight attitudinal dimensions: Reading as Enjoyment, Reading Anxiety, and Reading Group. Mean ranking for the consultants was higher on the first two dimensions, while teachers rated the Reading Group dimension higher than the consultants did. Ratings were similar on Expressed Reading Difficulty, Reading as Direct Reinformcement, Alternative Learning Modes, Silent vs Oral Reading, and Comics.

Tovey, Duane R. Teachers' understanding of the reading process. *Reading - Canada - Lecture*, April 1983, *2*(2), 5-12.

Interviews 30 elementary teachers, 5 from each grade level 1-6, sampled from 94 classroom teachers in a suburban Midwestern city. Respondents were asked if they thought about what they did as they read, and if they did, what they thought they did; if they thought about how meaning is represented in written language, and if so, how it is represented; what they did when they encountered unrecognized or unknown words while reading; and whether or not they looked at every word they read and whether they thought they should. A content-linguistic analysis helped to sort responses into categories. Forty-three percent indicated they had not thought about what they do when they read. Thirty-two percent associated reading with purposes, affect, and products. Fifty percent reported they never thought about how meaning is represented in language. Of those responding affirmatively, 34% indicated using visual symbols and words and 66% referred to syntactic function. When words were unknown, 53% indicated they used whole text processing, while 20% referred to sounding the words out. Thirty percent made no mention of context. Eighty percent claimed they did not look at every word and did not feel it necessary; 38% felt that it was important to look at every word when reading poetry or informational material.

McMILLEN, LELAND A., & SLOAN, CHARLES A. Teachers' attitudes toward reading and their students' reading habits. *Journal of the Association for the Study of Perception*, Fall 1981, *16*(2), 5-16.

Reviews research and opinion literature to determine the difference between attitudes and interests and to assess factors leading to the establishment of one's attitude toward reading. Home, school, and personality are closely related to the development of interest in reading. Teachers' attitudes toward reading and their teacher-pupil relations are important factors in developing positive reading attitudes. As teachers often do not assess their students' reading interests and attitudes, procedures are suggested.

HEATHINGTON, BETTY S., & ALEXANDER, J. ESTILL. Do classroom teachers emphasize attitudes toward reading? *The Reading Teacher*, February 1984, *37*, 484-488.

Surveys 101 primary teachers as to the importance of developing positive attitudes toward reading in their classrooms. Teachers were asked: to rank nine instructional activities in order of importance to their grade level; to estimate the percentage of time spent in specified activities; to list the instruments they use for assessing comprehension, attitudes, phonics and word meaning; and to list five activities that developed positive attitudes toward reading. Comprehension was the most important activity, followed by attitudes, phonics, sight words, word meanings, oral reading, silent reading, structural analysis and study skills. However, more time was devoted to all other activities than to attitudes. Only study skills received less instructional time. Observation was the most frequent method for assessing attitudes, although many left this item of the questionnaire blank. Among the most frequently mentioned activities to develop positive attitudes were: developing ability, skill, and proficiency (50 responses); providing interesting, meaningful materials (45 responses); providing opportunities to read orally or share (34 responses); and providing books on level (32 responses).

II-3 Preservice/inservice preparation

EANET, MARILYN G. Do graduate reading programs prepare college reading specialists? *Forum For Reading*, Spring 1983, *14*(1), 30-33.

Examines questionnaire responses from 24 graduate level institutions purporting to train reading specialists for teaching in college level reading programs. Revealed was that at least half of these failed to offer even a single discrete course addressing issues of college reading. Nearly all provided students with field based experiences as part of their training and 11 respondents offered one or more specific courses on the teaching of reading at the college level.

ROGERS, SUE F.; MERLIN, SHIRLEY B.; BRITTAIN, MARY M.; PALMATIER, ROBERT A.; & TERRELL, PATRICIA. A research view of clinic practicums in reading education. *Reading World*, December 1983, *23*, 134-146.

Determines the diagnostic and remedial practicum requirements in reading for preservice and graduate reading teacher/specialists at institutions identified through *Graduate Programs in Reading*. A cover letter and the researcher-constructed questionnaire of 53 open-ended and forced-choice items were mailed to a contact person at each of 318 institutions. A 35% response was obtained, with individuals from 34 states and 110 institutions responding. Part one solicited demographic data; part two dealt with the design of practicum courses; part three with diagnostic procedures; and part four with tutoring practices. Part five contained questions on supervisory practices used in practicum courses. Among the findings were: practicum experiences focused on teacher training, rather than client service; most were conducted on campus, rather than in public schools; fees for services varied; effectiveness of experiences was measured through formal evaluation, usually a case study; informal and standardized assessment measures were used; visual and auditory screenings and intelligence testings were usually conducted; and lesson planning and report writing received considerable emphasis.

Kear, Dennis J., & Carruthers, Barbara. The development and evaluation of a teacher training model for reading readiness. *Reading Improvement*, Summer 1983, *20*, 87-90.

Reports a project to develop and evaluate an instructional model for training preschool day-care kindergarten staff in reading readiness concepts, strategies, and materials through a series of three half-day workshops spread over a two-month period. A 50-item Likert scale assessing auditory discrimination, basic vocabulary, oral language development, following directions and sequencing, listening comprehension, and reading attitudes was administered to the experimental group of 19 preschool day-care/kindergarten teachers enrolled in the workshops and to 10 undergraduate early childhood students who served as the control group. Significantly different results ($p < .01$) were found favoring those who had participated in the instructional model.

Davey, Beth, & Theofield, Mary. An investigation of miscue analysis training for teachers. *Reading Improvement*, Summer 1983, *20*, 105-110.

Investigates the effectiveness of miscue analysis training on teachers' perceptions of reading, their accuracy in describing reading behavior, and their judgments of readers' strength. Subjects for the study were 38 teachers enrolled in a semester long reading course: 20 experienced teachers served as the experiemental group and 18 experienced teachers served as the control. Training effectiveness was evaluated using a four concept semantic differential, a four category Summary Sheet for Identifying Reader Strengths, and an index of accuracy in coding miscues. The four concepts evaluated on the semantic differential were: Reading as a Precise Process, Oral Reading for Assessment, Word Recognition Lists for Assessment, and Phonics Instruction. Materials used for training were taken from *Oral Reading Behavior Analysis*, a system adapted by one of the authors from miscue analysis procedures. The experimental group received six hours of other assessment procedures before diagnosing. All other components of the course were the same for both groups. Significant differences were found on all four concepts of the semantic differential. The experimental group held less positive perceptions of reading as a precise process, of word recognition lists for assessment, and of phonics instruction. They had more positive perceptions toward the value of oral reading assessment than did controls. Experimentals significantly ($p < .01$) improved in the accuracy of their oral reading coding. Significant differences between pre- and post-agreement with experts were found on three categories of the Summary Sheet for Identifying Strengths. Subjects did not change in one category, as they were already in agreement on the preassessment measure. Subjects (60%) also stated that miscue analysis helped them to clarify their understanding of the reading process.

Olson, Mary W., & Gillis, Marguerite. Teaching reading study skills and course content to preservice teachers. *Reading World*, December 1983, *23*, 124-133.

Reports efforts to improve reading study skills (outlining, summarizing, reading graphics, using the SQ3R procedure, note-taking) while teaching course content to preservice teachers. Enrollees (n = 121) in a reading education course were randomly assigned to experimental or control groups. Experimentals attended standard lecture-based sessions. Additionally, they were also instructed in various study skills and procedures. Control subjects, following training, tutored primary-grade children in public schools. Analyses of pre- and posttest multiple-choice test scores over course content, and scores on the *Survey of Study Habits and Attitudes* (SSHA) and the vocabulary and comprehension subtests of the *Stanford Diagnostic Reading Test* (SDRT) indicated significant gains for the experimental groups on course content and the SSHA. Improvement in general reading achievement on the SDRT approached significance.

PATBERG, JUDYTHE P.; DEWITZ, PETER; & HENNING, MARY JO. The impact of content area reading instruction on secondary teachers. *Journal of Reading*, March 1984, *27*, 500-507.

Reports an evaluation study of the impact of inservice content area reading instruction conducted for 18 vocational and 33 nonvocational teachers. Three instruments assessed content area reading strategies the teachers judged to be useful, strategies they planned to use in their teaching, and observations and recordings of their actual use of these strategies. Instrument one was an attitude questionnaire where participants rated the value of 15 teaching strategies. Instrument two was a simulated teacher planning activity where teachers planned a unit of instruction and developed an introductory lesson. The third was an observation system to record the strategies actually used in the classroom, the materials employed, and the students' responses. Observations were conducted only for the vocational education teachers, and averaged three hours. Inservice raised awareness of the possibilities of integrating reading strategies into content instruction, as more strategies were mentioned and used in the unit plans written after the inservice training. However, all strategies were not used appropriately, according to judged unit plans. Observations indicated that vocational teachers incorporated pre-reading, during reading, and post-reading activities into their actual teaching. Discrepancies were observed between what teachers planned to do and what actually happened during classroom instruction, with teachers including more in the actual lesson than the plans specified. Teacher attitudes seemed a better predictor of what teachers did in their classrooms than did their planning protocols.

COLLINS-CHEEK, MARTHA D. Graduate programs in reading: What do graduates say about them? *Reading Improvement*, Fall 1983, *20*, 200-208.

Analyzes survey data from graduates of reading programs identified through *Graduate Programs and Faculty in Reading*, to determine how they perceive their preparation for their current positions and how they viewed their educational experiences in comparison with persons holding degrees in other educational areas. There were 851 graduates of 37 universities representing 22 states and one Canadian province who were mailed a survey form asking about their highest degree, their current job position, the rating of their graduate preparation for the position, their most and least helpful experiences and graduate reading courses, and their overall rating of their educational experiences for their highest degree. A 52% return of forms was obtained. No differences were found between reading majors and other educators in the overall rating of their educational experiences. Classroom teachers, reading teachers, reading specialists, reading supervisors, supervisors, and administrators rated their educational experiences as average; college/university teachers rated their educational experiences as above average for their positions. Classroom teaching experience was found to be most significant for job preparation ($p < .001$), whereas other employment experiences were found to be least helpful. Diagnosis and prescriptive teaching or remediation were identified as the two most helpful reading courses taken. Overall, the respondents rated their educational experiences for their highest degree as above average ($p < .001$).

KILLIAN, JOYCE E. Preparing English teachers: The cooperating teachers' view. *English Education*, October 1983, *15*, 136-142.

Surveys 27 junior and senior high teachers of English/language arts, to assess their views of the strengths and weaknesses of teacher preparation programs in literature, composition, and grammar. Cooperating teachers' perceptions of program adequacy are compared with perceptions of a group of student teachers. First, the cooperating teachers rated student teachers' subject area preparation, their general teaching skills, and their specific strengths and weaknesses. Then, they added comments on what teacher education institutions are doing well and how programs might be modified. Student teachers were rated highest in their preparation to teach literature; however, it was felt that the student teachers lacked familiarity with quality adolescent literature and had difficulty presenting the material appropriately for adolescents. Composition ratings were adequate but cooperating teachers felt student teachers had difficulty teaching writing. Lowest ratings in student teacher content preparation were in grammar. In general teaching skills, student teachers were rated "more than adequate" on lesson planning, evaluation, and varying teaching techniques, and "adequate" on providing for individual differences and promoting discussion. Discipline was the only item rated as "less than adequate." Responses to open-ended questions suggested teacher preparation institutions need to emphasize transitions from the student teachers' own experiences with writing, reading, and speaking to the teaching of these subjects in an age appropriate manner to their students.

BARTCH, CHERYL E.; BOHNING, GERRY; & THOMPSON, RICHARD A. Reading instruction for Florida's secondary (6-12) students. *Florida Reading Quarterly*, March 1984, *20*(3), 41-45.

Determines the status of reading instruction opportunities for Florida secondary students, grades 6-12, by focusing on two factors: availability of instruction and qualifications of instructors. Twenty-two surveys were returned from reading supervisors. Reading instruction was required for sixth graders in 20 of the 22 counties. Only 10 counties required reading instruction beyond grade 6. Reading electives are provided in 15 of the 22 reporting school districts. Four counties reported no certified reading teachers, three counties had 100% certified, four had 75% or better, and the remaining district percentages varied widely, with many notably short in their numbers of certified reading teachers.

BERG, PAUL CONRAD; HESS III, ROBERT K.; & CROCKER, ADRIENNE. The contribution of reading research to college reading programs. *Forum For Reading*, Spring 1983, *14*(1), 17-29.

Reports the responses of 36 persons associated with college reading programs to a questionnaire assessing the research knowledge base for the skills and methods used in college reading classes. Most respondents had taught college reading for many years, had prior public school experience, and had advance degrees in reading or educational psychology. Respondents felt that there was some research basis for the skills and methods taught. Teaching vocabulary through context split the responses most evenly, with 25% reporting little research evidence, 25% reporting some evidence, and 39% stating a great deal of significant research. Seventy-five percent indicated very little or some research evidence for teaching affixes and roots. Thirty-nine percent indicated a great deal of research is available relative to teaching main idea, but 67% felt little was available for teaching details. Most respondents felt very little or some research was available for other comprehension areas. Responses related to rate training also indicated little or some research support, as did responses to management systems. Eighty-three percent felt there was little grade improvement classes. Fifty-three percent reported that the director's background, not reading research, was the factor contributing most to the choice of skills and methods for college reading improvement classes.

WEINSHANK, ANNETTE B., & VINSONHALER, JOHN F. On diagnostic reliability in reading: What's wrong and what can be done? *Topics in Learning & Learning Disabilities*, January 1983, *2*(4), 43-52.

Reports observational studies and a training study in reading diagnosis and remediation. Sixty-six subjects (reading and learning disability specialists and classroom teachers) were asked to diagnose 15 simulated cases of reading or learning disability. Subjects were given information about achievement level, family and academic background, cognitive ability, reading ability, and classroom behavior, and then wrote up the diagnosis and the suggested remediations. Products were analyzed to determine commonality (group agreement) and individual agreement. Agreements were low. A training study was then designed to see whether clinical training could improve diagnostic reliability in reading. Ten classroom teachers and 5 graduate students were instructed for 40 hours. Changes in diagnostic reliability were monitored on pre-, mid-, and posttests and with an additional posttest. Subjects wrote their diagnostic write-ups and matched their written diagnoses with categories on a 128-item checklist organized about seven critical reading performances. Initial values for reliability were higher for the untrained students than for the expert clinicians. Posttest values were also higher. Major increase was due to agreement on the critical reading performances and on causal factors.

WILLIS, JERRY, & GUELDENPFENNING, JOERG. The relative effectiveness of lecturing, modeling, and role playing in training paraprofessional reading tutors. *Psychology in the Schools*, July 1981, *18*, 323-329.

Compares three approaches to training college student volunteer tutors for their effectiveness: lecturing, modeling, and role playing. Seven tutoring skills, taught in eight half-hour training sessions and evaluated by eight five-minute videotaped tutoring tests, constituted the training program given to 11 undergraduates. Analysis of the videotaped tests indicated that all tutors made improvements in their targeted teaching behaviors. The role playing group made the greatest gains and was significantly better than the other two groups; modeling was superior to lecturing.

TRICKEY, GEOFF, & CRISPIN, LISA. A reading project in Barking. *Special Education*, December 1982, *9*(4), 6-9.

Reports provisions of the Barking Reading Project in Great Britain. Four schools participated in a pilot project stressing: maximization of school resources, devolution of specialist skills, collaborative involvement, purposeful assessment, systematized recommendations, and practical back-up for recommendations. From the initial four schools, the program spread to 29. In-service training by the specialists was a key component. Average reading gains for short and long-term suggest the program is working and more children are being helped in the regular classroom.

II-4 Roles

BRADTMUELLER, WELDON, & EGAN, JAMES. Perception of the principal's role in reading instruction. *Journal of the Association for the Study of Perception*, Spring 1981, *16*(1), 19-26.

Assesses the school principal's role in reading instruction through responses to questionnaires mailed to a random sample of elementary and middle school principals. Forty-three principals from smaller school districts (1,500 students or less) and 28 principals from larger districts (1,501 students or more) responded. Seventy of these principals stated that their duties included supervision of reading instruction. From the responses of the 71, a composite of the background and responsibilities of a principal for a larger school district and for a smaller school district was drawn. The composite included a minimum of 6 hours credit in how to teach reading, at least four years experience in teaching reading, and experience in analyzing and selecting basal readers. Both groups felt that comprehension was of equal or greater importance to the reading program than were decoding skills. Additionally, both groups of principals grouped children homogeneously and expected further subdivision of children within a class; used achievement test scores, teacher judgment, informal inventories, and criterion referenced tasks for grouping; included teachers in decision making on materials; and preferred workshops or district inservice to formal coursework for staff development.

Combs, Martha W. Mastering basic skills in reading: Principals can make a difference. *Florida Reading Quarterly*, March 1984, *20*(3), 21-25.

Makes a comparison of two groups of elementary schools, those with high and low pupil achievement in reading, in relation to the principal's involvement with teachers, children, and parents in the reading program. Schools were selected on the basis of reading composite scores on the *Florida Statewide Assessment Test* (FSAT) administered annually to third- and fifth-grade children. Percentage of low socioeconomic pupils was also considered in identifying the 15 schools with the highest and the 15 schools with the lowest FSAT scores. Twenty schools were able to participate through completion of a 29-item involvement questionnaire filled out by teachers and principals. Interviews with principals and some teachers were also conducted. Principals of high achieving schools were rated significantly higher on the following activities: working with teachers to identify goals; assisting teachers as needed in solving classroom reading problems; planning with individual teachers for improvement of instruction; helping implement a classroom management system in reading; encouraging teachers to assist parents with ways of helping children with reading at home; conveying to children that the principal placed importance on reading; and giving pupils the opportunity to demonstrate their reading skills.

Wilhite, Robert K. Principals' views of their role in the high school reading program. *Journal of Reading*, January 1984, *27*, 356-358.

Reports a survey conducted with secondary school principals in a Midwestern suburban community. Principals were interviewed and asked to complete a questionnaire concerning their perceptions of their roles as instructional leaders for reading. Principals could respond to each item with a statement indicating that the task was "part of my role" or "not a part of my role." All but two of the tasks listed, participating in the daily operation of the reading program, and participating in the selection of equipment and materials, were seen as part of principals' perceived roles. Among those tasks receiving better than 80% agreement were: evaluating reading staff (100%), budgeting (96%), hiring reading personnel (96%), evaluating the reading program (87%), establishing guidelines for hiring reading personnel (87%), and planning inservice programs (83%). Roles were interpreted as falling into three categories: administrative competencies, operational competencies, and public relations practices. Respondents agreed unanimously that state guidelines for reading personnel should be followed in hiring. They used observations, visits, conferences, and evaluations by department chairs for staff evaluations. These principals agreed that staff development in reading was important but that it had little priority in their building.

STAHLSCHMIDT, AGNES D., & JOHNSON, CAROLE SCHULTE. The library media specialist and the read-aloud program. *School Library Media Quarterly*, Winter 1984, *12*, 146-149.

Reports a survey of kindergarten through sixth-grade teachers in one midwestern community in order to determine how school library media specialists can contribute to a read-aloud program. Responses from 113 teachers revealed that 96.5% reported reading aloud to children, with 93% indicating they read aloud daily or two to three times per week. When asked where they obtained the books they read aloud, 100% reported using the school library media center, followed by their personal library (81.7%), a student library (56%), and the public library (43.1%). When asked to specify who recommends the books the teachers choose to read aloud, teachers reported themselves first (97.2%), followed by librarians (73.4%), other teachers (60.6%), and periodicals or booklists (42.2%). Of those reporting methods to keep current in appropriate literature, 83.2% reported library browsing, 70.8% reported discussions with librarians, 53.1% reported bookstore browsing, and 46% reported using periodicals or journals. More than one-third of the teachers reported they do not keep as current as they would like. Teachers reported the main reasons for selecting specific books to read aloud as: high interest (94.5%), theme (58.7%), curriculum (57.8%), author/illustrator (46.8%), and illustrations (35.8%).

II-5 Evaluation of programs and materials

SINGER, HARRY, & DREHER, MARIAM JEAN. Attitudes towards testing and test results of reading achievement. *Journal of Reading Behavior*, 1983, *15*(4), 19-32.

Surveys 44 educators as to their most and least preferred choices among four types of reports for giving information about testing: peer- and self-comparisons in both content-free (numerical information only) and content-bound (examples given) versions. Most preferred reports of tests which provided information on students' progress relative to their previous standing, including sample items showing examples of performance, in addition to the normative information. In the second phase of the study, 27 of the participants who had similar patterns of choices of responses in the first study completed a 32-item Likert Scale that revealed the reasons for their most and least preferred type of test report. Subjects agreed on 9 of the 32 items for their most preferred report. Among the agreements were: the combination of self-comparison and peer-comparison content bound is helpful to parents and teachers, informs them on student improvement, indicates how they compare with others, reveals that they can handle more difficult materials this year than last, informs the teacher on progress made since last year, and tells the pupils what kinds of materials they can read successfully. These educators also felt this information would be useful in evaluating a teacher's or a school's reading program.

III. Sociology of reading

III-1 Use of mass media

WEBER, LARRY J., & FLEMING, DAN B. Media use and student knowledge of current events. *Journalism Quarterly*, Summer 1983, *60*, 356-358.

Investigates the knowledge of current events and the sources of information of 2,000 students in grades 8 and 11 enrolled in social studies classes. The students completed a

24-item current events test and responded to questions about their use of mass media. Eighth grade students scored below 50% and eleventh grade students, below 60% on the current events test. Boys scored higher and were more frequent consumers of mass media than girls at both grade levels. Television was the primary news source. Eleventh grade students who received information from newspapers scored significantly higher on the current events test than those who depended upon television for news.

REAGAN, JOEY, & DUCEY, RICHARD V. Effects of news measure on selection of state government news sources. *Journalism Quarterly*, Summer 1983, *60*, 211-217.

Focuses upon sources of state news and their relationships to subjects' knowledge about state government and to voting for state offices. Telephone interviews were conducted with 402 subjects, randomly selected from a telephone directory. They responded to questions concerned with the degree of their interest regarding three aspects of state government; the manner in which they learned about the governor, the legislature, and the state supreme court; their knowledge of state officials and issues; their voting for state offices; and their use of mass media. The average subject watched television about two hours, listened two hours to radio, and spent 45 minutes reading a newspaper on the previous day. Over four-fifths stated they voted in the previous state elections, but three-fourths could not name a legislator with fewer being unable to name a state issue. Newspapers exceeded other media as sources of information and were the only source relating to higher knowledge of state news.

FRY, DONALD L., & MCCAIN, THOMAS A. Community influentials' media dependence in dealing with a controversial local issue. *Journalism Quarterly*, Autumn 1983, *60*, 458-463, 542.

Investigates the role and impact of the mass media by studying relationships among the media and other sources of information. During a three-week period 45 adults designated as influentials completed a 57-item questionnaire followed by a personal interview. Media dependence was measured through three constructs: accessibility, evaluation, cross checking. Indexes were prepared for each of the constructs. Paired t-tests were computed to assess differences among the three constructs in reference to newspapers, televisions, radio, and interpersonal sources. No statistically significant differences in source evaluation were found between interpersonal sources, newspaper, and radio; television was perceived as less accurate and thorough than interpersonal sources and newspapers. The subjects were more likely to cross check information with interpersonal relations than with any other sources.

MCCLENEGHAN, J. SEAN. New Mexico newspapers and mayoral elections. *Journalism Quarterly*, Winter 1983, *60*, 725-728.

Uses discriminant analysis to determine which of 10 variables predicts the winning candidate in a mayoral election. Campaign data were analyzed from 14 newspapers and 4 television stations in 14 New Mexico communities during a two-week period. In 14 mayoral contests, 93% of the losers and 64% of the winners were correctly classified. The only significant variable was newspaper endorsement of the candidates.

WILLIAMS, JR., WENMOUTH; SHAPIRO, MITCHELL; & CUTBIRTH, CRAIG. The impact of campaign agendas on perceptions of issues in 1980 campaign. *Journalism Quarterly*, Summer 1983, *60*, 226-231.

Relates media agendas during the 1980 campaign. Ideas from the media were framed with the unit of analysis being the issue and not the story. Television agenda for the three networks was determined by coding stories into 136 content categories, later collapsed into 12. The television agenda was computed by determining the total number of seconds for each category and ranking the categories based on total time. Column inches were recorded for content segments of newspaper stories found on the front and two editorial pages of one Illinois newspaper. Campaign agendas were formed by separating each content segment for Reagan or Carter for both types of media. The audience agenda was determined by the responses of 356 people during telephone interviews concerning their perception of the most important presidential campaign issue. Ten of the 12 issue categories were used to assess the agenda setting effect. The three television networks had statistically similar agendas but differed from that of the newspaper. Larger correlations were obtained between audience and campaign agendas than between audience and non-campaign agendas.

McCombs, Maxwell, & Poindexter, Paula. The duty to keep informed: News exposure and civic obligation. *Journal of Communication*, Spring 1983, *33*(2), 88-96.

Relates civic attitudes to use of mass media for news events. In personal interviews 2,512 adults in four research centers indicated the extent of their agreement with four statements concerned with attitudes towards news and current events on a five-point scale as well as their use of the media for news. Four out of five high scorers on the attitude scale were daily newspaper readers. This study was replicated in three additional areas with similar results. In these studies civic attitudes were also predictors of exposure to national television news. The demographic profile of the high scorer on the attitude scale corresponds to that of the newspaper reader: highly educated, upper-income, middle-aged. The total *n* for the seven research sites was 3,733.

Caspi, Dan, & Limor, Yehiel. The servants of two masters: The evaluation by the public and its representatives of the mass media in Israel. *Mass Communication Review*, Winter/Spring 1982/83, *10*(1&2), 10-14.

Compares the use and gratification of newspapers and television by 91 members of the Knesset (The Israeli governing body) and 533 men and women, a representative sample of adult, urban population in Israel. The subjects were asked questions concerning the value of mass media in helping them evaluate public opinion on controversial issues and in keeping abreast with events happening in government. The Knesset members evaluated newspapers as greater gratifiers of their needs than the public did. The latter group received more gratification from television. Both groups rated radio equally.

Paraschos, Manny. Greek mass media: A critical appraisal. *Journalism Quarterly*, Summer 1983, *60*, 338-342.

Reviews the status of Greek print and broadcast media. The newspaper industry dominates the Greek press with 120 daily and 900 non-daily newspapers being published in the country. Forty dailies and about 600 non-dailies are published in Athens alone, with a national circulation of more than 800,000 copies per day. Evening newspapers account for about three-fourths of the total daily circulation of all national dailies. Chain ownership is not prevalent. The periodicals market is dominated by magazines specializing in short love stories, gossip, sexy photo-romances, and translations from foreign journalists. Only three magazines have some quality and solid circulations. Four national radio programs originating in Athens and two national television networks comprise the broadcast media. The competition of print and electronic media for advertising money and the country's financial instability have increased the economic difficulties of the press to a critical point.

Tan, Alexis S. Political participation, diffuse support and perceptions of political efficacy as predictors of mass media use. *Communication Monographs*, June 1981, *48*, 135-145.

Tests a path model by surveys of 137 Mexican-American, 139 black, and 219 white adults to determine if increases in diffuse support, political efficacy, and political participation will significantly predict increased use of television and newspapers for public affairs information. A total mass media score was computed by combining television public affairs viewing and newspaper public affairs reading scores for each subject. Political participation was the strongest predictor of media use for public affairs information. The evidence for the other two political socialization variables was less conclusive especially for the blacks and Mexican-Americans. It was concluded that political orientations to media use path models have some validity, especially with white samples.

III-2 Content analysis of printed sources

Banfield, Beryle, & Wilson, Geraldine L. The black experience through white eyes—The same old story once again. *Interracial Books for Children Bulletin*, 1983, *14*(5), 4-13.

Presents case studies of two award-winning picture books, *Jake and Honeybunch Go to Heaven* and *Shadow*. Two sets of symbols related to the African American community were first identified. One set consists of stereotypes. The second represents important, valued characteristics belonging specifically to groups which are passed from one generation to another. In both books important cultural symbols are misrepresented. Both convey misinformation about black people, how they live, what they believe, what they consider sacred, what they consider appropriate to laugh at.

Hall, Nigel. Characters in British basal series don't read either. *The Reading Teacher*, October 1983, *37*, 22-25.

Surveys the early books in six reading series widely used in England to determine the number of incidents involving a character reading. The manuals were examined to ascertain what emphasis was placed on helping pupils understand the nature of reading and print. In five series 29 incidents involved a character reading, most involving children at school. Only brief attention was given in the manuals to developing their awareness of reading and its purposes. The sixth series contained almost twice as many incidents including people reading as in all of the other books together. The accompanying manual provided good guidance for teacher-developed activities to accompany the series. A checklist for evaluating the extent to which a basal series helps pupils understand the nature of reading was included.

Cook, Timothy E. Another perspective on political authority in children's literature: The fallible leader in L. Frank Baum and Dr. Seuss. *The Western Political Quarterly*, June 1983, *36*, 326-336.

Analyzes in depth children's books written by L. Frank Baum and Dr. Seuss for their political depictions. In their stories political questions were not peripheral but often central; and in spite of satisfactory endings, many of the stories presented negative aspects of government and authority. Leaders are rarely depicted as being more gifted than the average person or in an idealized manner. From the conclusions of their stories, both authors appear to argue that government should be limited in scope. They promote the idea that all individuals control their own destiny even against strong opposition and are themselves potent political forces against which the seemingly political authority is no match.

COLLINS, LAURA J.; INGOLDSBY, BRON B.; & DELLMANN, MARY M. Sex-role stereotyping in children's literature: A change from the past. *Childhood Education*, March/April 1984, *60*, 278-285.

Compares the results of a content analysis concerning sex stereotyping in children's books with those of a 1972 study. A sample of 16 Caldecott picture books and runners-up, from 1979 to 1982, were analyzed in terms of 17 factors. Three types of analyses were performed: ratio and content comparisons and men versus women writers to determine which sex is writing the most sexist/nonsexist books. A comparison of the two studies revealed that male and female differences in the books have decreased substantially toward more sexual equality. When women are in a central role in the second study, they appear to take on nontraditional characteristics; but when they are not the principal characters, they revert to traditional female stereotypes. Women authors appeared to be more sexist than men authors.

RIFAS, LEONARD. "War makes men" is message from comic books. *Interracial Books for Children Bulletin*, 1983, *14*(6), 8-12.

Analyzes in a two-part study the depiction of war in comic books. A study of more than 200 comic books published in the last 33 years revealed five themes: war makes men, is necessary, defends freedom and democracy, improves race relations, and is the ultimate sport. The books overstated the attractiveness of war, downplayed the gruesome aspects, isolated war from its social-political-economic context and cost, and distorted or invented historical events to show that the United States and its allies were always right. Today only 10 of the 155 titles published by major companies are war comics with 6 of these consisting entirely of reprints. Little interest in this genre has been shown recently.

FLEMING, DANIEL B. Nuclear war in high school history textbooks. *Phi Delta Kappan*, April 1983, *64*, 550-551.

Analyzes 19 recently published secondary-level world and U.S. history textbooks to determine the amount of information they contained about nuclear war. Seven of the nine world history textbooks gave more attention to the scientific development of the atomic bomb than to its effects. Both groups of books paid little attention to the bombings of Hiroshima and Nagasaki and the arms race and its resolution. It was concluded that textbook authors and publishers must make major changes if young people are to understand issues related to nuclear war.

LEAK, SARAH E., & PHILLIPS, RICHARD C. History and economics textbooks and the treatment of free enterprise. *American Education*, July 1983, *19*(6), 17-19.

Examines 14 American history and 8 economics textbooks on North Carolina's state adopted list of textbooks to determine their treatment of the free enterprise system.

After determining if the definitional components of free enterprise were discussed, the investigators noted whether free enterprise or acceptable synonyms were used, the extent to which textbooks advanced an explanation of free enterprise, and the nature of the treatment (positive or negative). Free enterprise received little positive or neutral analysis in the textbooks examined. Most textbooks advocated a strong role for government in the economy. It was concluded that these textbooks were not adequate for carrying out a state mandate to teach free enterprise as currently practiced.

SHORE, PAUL J. The view from the eye of the storm. *Social Education*, October 1983, *47*, 430-434.

Presents a case study of the contents of high school social studies textbooks of the 1930s in relation to the topics of the Depression, Roosevelt, and Fascism and Nazism. The writer concluded that these textbooks failed to make students aware of international trends which led to World War II and downplayed the Great Depression. As the 1930s ended, increasing numbers of textbooks dealt with the Depression. Few criticisms of Roosevelt and his policies were found. Most of the books treated European totalitarianism neutrally.

BARROW, LLOYD H., & BITNER, BETTY L. Cancer education in high school biology textbooks. *School Science and Mathematics*, April 1984, *83*, 285-296.

Ascertains cancer education content in six current high school biology textbooks and reports upon each book separately. The cancer coverage varied from being mentioned to 15 pages and was considered to be inadequate in all cases. *Cells and Cancer* was recommended as a supplement to the biology textbooks.

PERCIVAL, ELIZABETH. Sex bias in introductory psychology textbooks: Five years later. *Canadian Psychology*, January 1984, *25*, 35-42.

Investigates sex bias in language, illustrations, and written matter in eight introductory psychology textbooks used in English-speaking Canadian universities. Specific issues addressed were language, sex roles/stereotypes, women as subject matter, women as psychologists, and an overall general assessment of sex bias. Each textbook was analyzed by three raters. The 24 raters completed a questionnaire for the particular books assigned to them. Overall sex bias ratings were low and consistent across raters. Textbooks could not be ranked because differences were very small. Sexist language was rarely found. All books included some discussion of sex roles, stereotypes, and sex differences. The raters found errors of omissions but found few errors of commission. These books were compared with and found to be better than textbooks published five years earlier in regard to the topics investigated.

BROWN, R. MICHAEL, & BROWN, NORMA L. Bias in psychology and introductory psychology textbooks. *Psychological Reports*, December 1982, *51*, 1195-1204.

Compares the results of an analysis of six introductory psychology textbooks with those from an earlier study by other researchers. The sampling procedures replicated those in an earlier study except that different books were analyzed, none being older than two years. The investigators constructed a list of biases identified in the first study and linked them to six topical areas in psychology: definition of psychology, emotions, moral development, personality assessment, instincts, leadership. The findings were in contrast with those of the earlier study. The textbooks in this study showed little evidence of glaring behaviorist, environmentalist or liberal biases in treating the topics of emotion, personality assessment, and instincts as found earlier. The topic of leadership was the only one in agreement for both studies.

SCHOENEMAN, THOMAS J. The mentally ill witch in textbooks of abnormal psychology: Current status and implications of a fallacy. *Professional Psychology*, June 1984, *15*, 299-314.

Examines 20 textbooks of abnormal psychology published between 1978 and 1981 to determine the extent of the psychopathological interpretation of demonology, witchcraft, and possession. Four kinds of content were summarized for each book: historical section, possession and witch hunting, primary and secondary sources, endorsements or refutations of three aspects of the interpretation. The history of abnormal psychology appeared in 19 books. Almost all authors endorsed at least one aspect of psychopathological interpretation; only three included contradictory opinions. In general, the authors ignored the prominent research on witchcraft and possession and gave minimal attention to recent histories of psychiatry.

MCKELVIE, STUART J. Left-wing rhetoric in introductory psychology textbooks: The case of mental illness. *Psychological Reports*, April 1984, *54*, 375-380.

Examines 23 introductory psychology textbooks for evidence of left-wing rhetoric in their discussions of mental illness. The content of each book was analyzed according to whether mental illness was seen from the Laingian, Szaszian, or sociocultural point of view. The data provided very little evidence that these textbooks display left-wing rhetoric in the form of a carefully structured social argument including a defense of the anti-psychiatrists. Their content was considered to be eclectic.

BATE, BARBARA, & SELF, LOIS S. The rhetoric of career success books for women. *Journal of Communication*, Spring 1983, *33*(2), 149-165.

Analyzes 17 popular advice books for women published between 1975 and 1981. The investigators examined each book for different factors that would provide information about definitions of success, the development of author-audience relationships, and the portrayal of women in relation to other individuals and to society at large. The writers of the books did not agree concerning the constituents of success and how women can integrate their personal and professional lives. The diversity of advice given to women about success reflects a period in which the personal choices of women have political significance for American society as a whole. The authors appeared to recognized that the relationship between writer and readers is crucial to the effectiveness of their books.

CRANNEY, A. GARR. Adult literacy: New help from an old book. *Western College Reading Association Journal*, Winter 1982, *2*(2), 5-7.

Identifies Bible references to 13 topics concerned with reading. Forty-nine reading-related words were entered on a computer and were used with a computerized text of the King James version of the Bible, generating approximately 4,800 passages. Thirteen topics were constructed from the passages considered to have relevance to the teaching of reading, as reading teachers, the importance of reading, and the like. Biblical references are included for each of the 13 topics. It was concluded that the Bible includes much that is relevant to reading.

ZAREMBA, ALAN. International communication: Ghanian press perspectives on the 1973 Middle East War. *Journal of Black Studies*, June 1982, *12*, 369-382.

Analyzes contents of editorials in a Ghana newspaper, the *Daily Graphic*, during a 60-day period for attitudes and perspectives regarding key issues in the Middle East conflict. A tabulation was made of the frequency of sentences that contained one of 20 phrases related to categories established before the analysis was undertaken. Of the editorials 98.6% revealed a pro-Arab perspective; 1.4%, pro-Israeli. Of the total tabulations 20% were in the category of aggression, followed by 12.5% in imperialism, and 10% in land legitimacy.

BIVINS, THOMAS H. Format preferences in editorial cartooning. *Journalism Quarterly*, Spring 1984, *61*, 182-185.

Performs a content analysis on 100 editorial cartoons (50 single-panel and 50 multi-panel) chosen randomly from three anthologies of editorial cartoons for the years 1979-1981. Differences in the two formats were studied in respect to amount of white space, number of words used, number of different characters used, and use of caricature and visual metaphor or analogy. Single-panel cartoons included more white space and more characters and relied more upon visual metaphor or analogy than the multi-panel format. The latter used more words and caricature than single-panel cartoons.

BLACKWOOD, ROY E. The content of news photos: Roles portrayed by men and women. *Journalism Quarterly*, Winter 1983, *60*, 710-714.

Replicates a 1974 study by another researcher to determine if news photographs in the same newspaper reflected the roles of women more realistically than in the earlier study. Comparisons were made of the number of photographs of men and women, the roles portrayed, and the sections where the photographs appeared. The 92 newspapers sampled yielded 3,248 photographs with a total of 4,841 representations. Men outnumbered women 4 to 1 in one paper and 3 to 1 in the other. In both papers men dominated the inside news pages, business pages, sports sections. More than three-fourths of the photos of men represented them as politician, public official, professional, or sports figures. Greater disparity in the portrayals of men and women was found in the current study than in the 1974 one.

SINGLETARY, MICHAEL W., & LAMB, CHRIS. News values in award-winning photos. *Journalism Quarterly*, Spring 1984, *61*, 104-108, 233.

Analyzes 111 news and 111 feature news photographs which had placed first, second, or third in monthly judging for the National Press Photographers' Association between 1978 and 1981. This research examined the news values of the photographs. The news photos generally reflected the emotion of despair, abetted by tension and action. They typically involved local news, mostly concerned with violence, crime, disaster, or accidents. Few portrayed broad social issues or important national events. Most of these photographs were taken outdoors in good lighting and were not considered to be an accurate reflection of life. Feature photos were focused on coping with adversities or problems of age and physical conditions of the subjects. They tended to involve good news while news photos nearly always represented bad news.

GERACI, PHILIP C. Comparison of graphic design and illustration use in three Washington, D.C., newspapers. *Newspaper Research Journal*, Winter 1983, *5*(2), 29-39.

Compares the use of color and black and white illustrations in *USA Today*, the Washington *Times*, and the Washington *Post* during one week. The illustrations were categorized and totaled for each edition. The numbers of illustrations were compared with the total number of pages per edition to provide an average number of illustrations per page which was graphed. A comparison was made of numbers of photographs versus art works. In all three papers the most used illustrations were the black and white head shot and black and white medium-range photographs of people. Artists' sketches accounted for 6% of all illustrations used.

LUTTBEG, NORMAN R. Proximity does not assure newsworthiness. *Journalism Quarterly*, Winter 1983, *60*, 731-732.

Focuses upon 17 news stories from a total of 349 national stories from 10 of 75 newspapers analyzed during a composite publication week to determine the proximity of the stories to the place of publication. Each newspaper's highway distance from the site of the story was recorded. No bias for stories closer to home was evident.

SHOEMAKER, PAMELA J. Media treatment of deviant political groups. *Journalism Quarterly*, Spring 1984, *61*, 66-75, 82.

Inquires if there is a linear, negative relationship between the deviance of a political group and the degree to which newspapers portray the group as being legitimate. Fifty-seven editors placed each of 11 political groups on four different scales to measure political deviance. A random sample of 152 from a total of 604 articles from 7 newspapers which referred to the 11 groups was content analyzed on two dimensions of media treatment: prominence (length and position of the article and position of the group within the article) and character (evaluation, legality, viability, stability). Words for each of the foregoing dimensions were averaged for each article; all article scores were averaged for overall scores. The results of the application of regression analysis to the data showed that the more deviant a group was perceived to be by the editors, the less favorable the newspaper articles about the group were and the less legal and viable the group was portrayed.

LUTTBEG, NORMAN R. News consensus: Do U.S. newspapers mirror society's happenings? *Journalism Quarterly*, Autumn 1983, *60*, 484-488, 578.

Assesses the news consensus of specific stories on the front three pages of 100 randomly selected and 10 elite newspapers during a composite publication week. From the coding of national and international news, 349 national and 165 international stories were noted, averaging 50 national and 24 international stories each day. Only one story was covered by more than two-thirds of the newspapers. Much variation in the stories chosen for publication was noted. Of the 19 hypothesized independent variables, five proved to be statistically significant in accounting for thoroughness of national and international news coverage: number of pages in the newspaper, county population, number of both UPI and AP stories, and number of local stories.

ROSS, BONNIE LOU. Education reporting in the Los Angeles *Times*. *Journalism Quarterly*, Summer 1983, *60*, 348-352.

Analyzes 2,496 articles from 240 issues of the Los Angeles *Times* between 1960 and 1975 to determine the extent and nature of the coverage of education. All editorial material, excluding education, was counted, measured, and categorized according to content for the 15-year period. The seven categories were divided into 35 subcategories for additional analysis. Newshole space percentages devoted to education varied from a low 2.0% in 1964 to a high of 6.2% in 1969. Administration received the most coverage with student activity being a close second. Areas receiving almost negligible coverage were teacher education, crime on campus, media and technology, and testing results. More news space was allocated to local education news than to regional, state, national, or international news. More articles were written by the staff than by education writers.

More news space was given to event oriented news than issues in terms of the number of articles published.

Freimuth, Vicki S.; Greenberg, Rachel H.; DeWitt, Jean; & Romano, Rose Mary. Covering cancer: Newspapers and the public interest. *Journal of Communication*, Winter 1984, *34*(1), 62-73.

Presents findings from 1977 and 1980 studies concerning newspaper coverage of cancer. In both studies, news stories from the 50 largest daily newspapers during the same three months' period of time were selected for analysis. News stories representing six composite weeks were coded on a variety of issues. The 1980 sample consisted of 1,466 articles; the 1977, 2,138 articles. Approximately two-thirds of the news stories in both years focused on three topics: causes of cancer, treatment, and famous people and cancer. A lack of detailed information was noted for such topics as incidence rates, prevention, detection, and treatment of cancer. In the 1980 sample the headlines of each news story were analyzed and were generally accurate and neutral in tone.

Stempel III, Guido H., & Windhauser, John W. The Prestige Press revisited: Coverage of the 1980 Presidential campaign. *Journalism Quarterly*, Spring 1984, *61*, 49-55.

Prepares a content analysis concerning the 1980 presidential campaign in 14 prestige newspapers and compares the results with similar analyses for previous campaigns. Space measurement and headline classification were applied to articles dealing specifically with the campaign which were classified as Democratic, Republican, or Independent in leaning. These newspapers gave less space to the 1980 campaign than they did to any of the 1960 campaigns. In 1980 the Republicans received slightly more overall space, but the Democrats received more front page space. Although the Democrats received more editorial support than before, there seemed to be little relationship between that editorial support and campaign coverage.

Shipman, John M. New York *Times*'s coverage of the war in El Salvador. *Journalism Quarterly*, Winter 1983, *60*, 719-722.

Analyzes 430 sentences in New York *Times*'s stories about El Salvador, 211 being from stories printed before an attack by the *Wall Street Journal* concerning the *Times*'s reporting of this area, and 219 after the attack. The sentences were analyzed using Hayakawa's trichotomy of report, inference, and judgment sentences and were coded into one of seven categories. The results showed that report sentences accounted for more than 70% of all sentences, and that there were virtually no judgment sentences in both time periods. Attributed report sentences did not increase and inference sentences did not decrease in the reporting after the attack.

Todd, Rusty. New York *Times* advisories and national/international news selection. *Journalism Quarterly*, Winter 1983, *60*, 705-708, 676.

Compares the content of the New York *Times* advisories for page one (computerized plan for next day's paper) with that of two newspapers that subscribed to the *Times* news service and three that did not. During a two-week period 479 stories and advisories were analyzed. The advisories and front pages were content analyzed in terms of whether the stories had a local/regional or a national/international focus. The top national/international story in each advisory was determined. Three measures were derived from the content analysis: a baseline proportion of the foregoing kinds of news, percentage of times the newspapers used the top advisory story, and the percentage of possible matches by each paper with the *Times*'s national/international choices. The national/international items in the advisories, especially the top stories, stood a good chance of appearing on the first pages. The non-subscribers used items from the advisory as often as the subscribers did.

RIFFE, DANIEL. International news borrowing: A trend analysis. *Journalism Quarterly*, Spring 1984, *61*, 142-148.

Analyzes issues of the New York *Times* and the Chicago *Tribune* to determine the extent of news borrowing during the 1970s. Two constructed weeks of 14 randomly sampled issues per year were selected, yielding a total of 154 issues per paper from the 11-year period. All foreign items were coded on the variables of geopolitical focus, originating agent, and media atttribution. A non-parametric test for trend analysis adapted from ecometrics was used. Roughly one in five foreign items in both papers was borrowed. Although the *Tribune* showed a growing trend in the use of borrowed news, no relationship was found between reduced staffing and incidence of borrowed news. The *Times*, but not the *Tribune*, provided a quantitative balance between news of the First and Third Worlds.

GIFFARD, C. ANTHONY. Developed and developing nation news in U.S. wire service files to Asia. *Journalism Quarterly*, Spring 1984, *61*, 14-19.

Investigates the frequency in the Asian wire services of stories about developing countries, industrialized nations, and the United States, as well as the differences in the length and subject matter of the reports. Every third news item of each day in a constructed week was included in the sample, yielding a total of 1,009 reports, 556 from AP and 453 from UPI. Stories were coded for more than 100 variables. The 101 countries represented in the sample reports were divided into three categories and were further subdivided into eight regions. More news reports originated in the United States than in any other country. By region Asia, North America, and Western Europe lead in coverage. Third World countries other than Asia had only token representation, but the average length of their reports was greater than those from the developed countries. The categories of news covered by the wire services were the same for developed and developing countries, but there was more negative news coverage of the less developed countries than of other countries.

HAQUE, S. M. MAZHARUL. Is U.S. coverage of news in Third World imbalanced? *Journalism Quarterly*, Autumn 1983, *60*, 521-524.

Analyzes the coverage of eight world regions in the New York *Times*, the Washington *Post*, and the *Christian Science Monitor* in a 10-day sample. Stories with foreign datelines and those originating in the United States but having their primary focus on foreign topics were categorized. The newshole included all non-advertisement space. Considerable differences among the dailies were found in terms of the volume, news, coverage, and format; but significant similarities were noted in the general pattern of international news coverage. The space devoted to the Third World by the three dailies averaged 65% of the international news space. The Near and Middle East topped the regional categories with 30% of the foreign news service. Of the 44% of the front page stories which were international, the Third World accounted for 82% of the foreign stories. It was concluded that the study failed to show a Euro-centric media focus in the elite press.

LANGE, JAMES C. National development and news values: The press in the Third World and the West. *Gazette*, 1984, *33*(2), 69-86.

Analyzes newspapers from eight nations representing four levels of socio-political-economic development to determine the nature and amount of news coverage of Third World news. A constructed week of national dailies was coded, using the headline and lead sentence of domestic news as the unit of analysis. It was found that the less developed a nation was, the more emphasis was placed on direct exhortations in the news, on news of the future, news about cooperation, positive evaluations of the news, and elites as the principal subjects. Each of the news value differences predicted from differences in national development was confirmed.

CLINE, CAROLYN GARRETT. The myth of the monolith. *Newspaper Research Journal*, Winter 1983, *5*(2), 17-28.

Examines world coverage, especially of Latin America, by seven United States metropolitan newspapers for a constructed month of 1977. Stories were coded as to geographic area of origin and topic; Latin America stories, as to country of origin and topic. The most striking finding was the diversity of world coverage by these papers. Choosing from the same pool of world affairs, the seven papers showed distinct differences in the areas of the world and topics in Latin America which they reported. The papers were in general agreement as to the ranking of world areas in terms of number of stories with eastern Europe ranking first and Latin America sixth of seven areas. The New York *Times* ran the largest number of foreign stories (855) and the Chicago *Tribune*, the fewest (498). The Miami *Herald* was the only paper to present a broad view of Latin America. The papers differed on the most popular topics, although foreign affairs and economics were the general favorites for Latin America.

LOGAN, ROBERT, & GARRISON, BRUCE. Factors affecting news coverage: Two Florida papers and the Mariel refugee influx. *Newspaper Research Journal*, Fall 1983, *5*(1), 43-52.

Determines whether news about Latin America increases in a Miami newspaper when events in Latin America become linked to city and county administration. A content analysis was performed on issues published before and after the Mariel influx. The results were compared with those of a content analysis of a newspaper in St. Petersburg which was less affected by the Mariel situation. As expected, the Miami paper published more Latin American news prior and after the Mariel period than the St. Petersburg paper, but the space devoted to this news did not increase significantly in the post period when compared with the earlier period. In both newspapers the diversity of reporting about apolitical social actors increased significantly after the influx era while the levels of reporting and degree of interpretation remained unchanged. Significantly more adjectives and adverbs about important people were used in the Miami paper than in the other newspaper.

GREENBERG, BRADLEY S.; HEETER, CARRIE; BURGOON, JUDEE K.; BURGOON, MICHAEL; & KORZENNY, FELIPE. Local newspaper coverage of Mexican Americans. *Journalism Quarterly*, Winter 1983, *60*, 671-676.

Provides information concerning the composition and extensiveness of daily newspaper coverage of Mexican Americans in locations with substantial populations of this ethnic group. The analysis of two composite two-week samples of newspapers from six southwestern United States cities yielded 1,495 local items classified as bulletins, photos, editorials, sports stories, news stories. After the Hispanic news items were measured in square inches, they were analyzed individually as to their prominence, representation of Hispanics compared to non-Hispanics, and content. The coverage varied from paper to paper and across the different types of news items but was more extensive than critics had suggested. Other findings were detailed.

ALBRITTON, ROBERT B., & MANHEIM, JAROL B. News of Rhodesia: The impact of a public relations campaign. *Journalism Quarterly*, Winter 1983, *60*, 622-628.

Analyzes coverage of Rhodesia in the New York *Times* for the 12 months immediately preceding and following the signing of a public relations contract between the government of Prime Minister Ian Smith and an American public relations firm to improve Rhodesia's image in the United States. The purpose of the analysis was to determine whether such efforts to manipulate the image of Rhodesia had any impact on its portrayal in the American press. Differences in coverage between the two periods were determined by a coding system in which items were assigned negative or positive values. The results of the analysis showed, among other findings, that the contract appeared to be associated clearly with a decline in negative commentary on violence but not on the objective reporting of violence.

MURPHY, JAMES E., & AVERY, DONALD R. A comparison of Alaskan native and non-native newspaper content. *Journalism Quarterly*, Summer 1983, *60*, 316-322.

Compares the content about and the treatment of native Alaskans in three native and five non-native newspapers. All issues of dailies and weeklies were analyzed during a three-month period and monthlies during a six-month period. News articles were analyzed for themes (topics covered), attention to native issues (space allocated), and direction (attitude expressed). Of the 552 stories, 366 appeared in the native papers; the remainder (186, 33.7%) were divided among the five non-native publications. The rank order of the 10 most frequently covered topics were the same in both press orientations, education and family affairs ranking at the top. In general, the attitudes expressed towards the topics were positive in newspapers of both press systems.

KARIEL, HERBERT G., & ROSENVALL, LYNN A. Cultural affinity displayed in Canadian daily newspapers. *Journalism Quarterly*, Autumn 1983, *60*, 431-436.

Examines the relative cultural affinity of English and French language newspapers to English and French culture countries. The newspaper sample was comprised of 21 Canadian newspapers published in 18 centers during 31 days. The world's countries were categorized as follows: Affinity 1, French language countries, English language countries, and all others, except the United States; Affinity 2, France and the United Kingdom; Affinity 3, France, the United Kingdom, Australia, New Zealand. Cluster analysis was used to determine the relationship between news origin and cultural affinity in the newspapers and to group newspapers accordingly. The results showed in all three categories remarkable culture affinities toward their readers' respective cultural homelands, the French language newspapers towards France and the English language ones towards the United Kingdom. Cultural affinity was found to be a factor in determining the source of news printed in a newspaper.

MURRAY, RUSSELL. Reporting of Northern Ireland deaths in *The Times* 1969-77. *Sociology*, May 1983, *17*, 268-273.

Compares newspaper reports of deaths caused by social violence in Northern Ireland with an external standard, the statistics compiled by police. To ascertain if a mention was made in the London *Times* of a death within a week of its occurrence, every item on the domestic news pages was scanned for issues between August 1, 1969, and January 8, 1978. All items about Northern Ireland were read in full at least twice as a reliability check. The overall percentage of reporting was high. Almost all Army deaths were reported, but approximately one-fifth of the civilian deaths were unrecorded. No bias was found in the reporting of numbers of deaths in regard to causes of death, deaths in and out of Belfast, male or female victims, days of the week when the violence occurred, or Protestant or Catholic deaths.

Weimann, Gabriel. Pre-elections polls in the Israeli press. *Journalism Quarterly*, Summer 1983, *60*, 288-292, 300.

Analyzes contents of daily newspapers in Israel during the pre-election months of all Israeli elections from 1948 to 1981. The purpose of the analysis was to determine changes that have occurred in the form, volume, and content of the coverage and indirect coverage (references to polls in newspaper content). Pre-election polls were conducted long before they were reported in the press. Changes in the form of reporting polls since 1939 included a gradual increase in the number of dailies covering polls, in the number of reports on polls, in the space allocation, and in the placement of the polls in newspapers. Polls became important news items, gaining more attention, space, and prominence in the press and were more frequently reported. The polls did not adequately define or interpret details of methodology used, as sampling limits, confidence levels, or intensity of opinion. An increase of indirect coverage occurred in editorials and interview reports but not in news stories.

Burke, Charles E. Coverage of the "superpowers" and news agency usage in Nicaraguan newspapers. *Gazette*, 1983, *31*(3), 163-170.

Compares the content of three Nicaraguan newspapers in regard to the treatment toward the United States and the USSR. A random sample of three months issues yielded three composite weeks. Of the 615 items in the sample, headlines constituted 80%, photos with captions 18%, and cartoons 2%. These were judged as favorably, unfavorably, or neutrally reflecting on the government of the nation cited. The items were also classified into one of eight news topic categories. In *La Prensa* the items about the United States were almost evenly judged favorable and unfavorable, but the items about the USSR were more frequently unfavorable than favorable. *Barricada* and *Nuevo Diario* were more favorable to the USSR than to the USA.

Windhauser, John W.; Norton, Jr., Will; & Rhodes, Sonny. Editorial patterns of *Tribune* under three editors. *Journalism Quarterly*, Autumn 1983, *60*, 524-528.

Compares editorial patterns and issues stressed in the Chicago *Tribune* during the editorships of McCormick, Maxwell, and Kirkpatrick. Editorials were analyzed from the month of April for three time periods of four years each, each period representing a different editor. Each editorial was classified by its geographical emphasis, purpose, subject, focus, and period. The editorials varied considerably with each editor, these variations being statistically significant. Although the three editors differed significantly as to the proportion of editorials on selected subject areas, they were quite similar to each other in the rank order correlations among the editors. Differences in focus (persons, issues), geographical emphasis (international, national, state, local), and purpose (informative, argumentive) were reported.

Barkin, Steve M., & Levy, Mark R. All the news that's fit to correct: Corrections in the *Times* and the *Post*. *Journalism Quarterly*, Summer 1983, *60*, 218-225.

Analyzes the types of corrections and the persons or organizations most directly affected by incorrect news stories in the Washington *Post* and the New York *Times* for 450 selected days. For all years examined each newspaper averaged one correction per day with 87.7% of all errors in both papers classified as objective rather than subjective ones. Four types of objective errors accounted for more than three-fifths of all mistakes: wrong description, wrong names of persons or organizations, wrong numbers, and wrong explanations. Of all errors in the sample, 73.3% occurred in news stories with the largest number being found in the main section (47.2%). Almost half (48.4%) of the errors related to local news. Although 21 different types of likely offended parties were identified, more than two-thirds were either government officials or politicians; business men or business organizations; or groups sponsoring events.

FEDLER, FRED; SMITH, RON; & MEESKE, MIKE. *Time* and *Newsweek* favor John F. Kennedy, criticize Robert and Edward Kennedy. *Journalism Quarterly*, Autumn 1983, *60*, 489-496.

Compares the coverage of the presidential campaigns by the three Kennedys in *Time* and *Newsweek*. The investigators recorded statements of attribution, adverbial and adjective bias, and six issues associated with the Kennedys: age, appearance, personalities, families, religion, wealth. The use of identified and anonymous sources was also recorded. The statements were classified as favorable, unfavorable, and neutral. Because the coverage by both periodicals was similar, their 1,896 statements were combined for analysis. Both magazines treated John Kennedy more favorably than either of his brothers. Neither magazine was more likely to quote sources, especially anonymous ones, who agreed rather than disagreed with their editorial points of view. The Kennedy age and religion disappeared as issues after John Kennedy's success in 1960. Other differences among the brothers were noted.

PATTERSON III, OSCAR. Television's living room war in print: Vietnam in the news magazines. *Journalism Quarterly*, Spring 1984, *61*, 35-39, 136.

Analyzes three American news magazines in terms of number of stories dealing with Vietnam and the content of these stories. The analysis of a stratified random sample of 160 individual news magazine issues published between August 1968 and August 1973 and broken into five 12-month blocks provided 6,871 individual stories. Of these 436 or 6.4% were classified as Vietnam related. A matched sample of network television news programs showed that 25% of its story coverage was on Vietnam related items. The coverage of Vietnam in the news magazines varied from year to year, none carrying photographs of combat or of the dying or wounded the majority of times. This analysis did not establish explanations for the reported shift in American public opinion from pro- to anti-involvement in Vietnam.

SENTMAN, MARY ALICE. Black and white: Disparity in coverage by *Life* magazine from 1937 to 1972. *Journalism Quarterly*, Autumn 1983, *60*, 501-508.

Conducts a content analysis of 52 issues of *Life* magazine in eight selected years between 1937 and 1972 to identify each appearance of a black American. The number of pages of black coverage was tabulated. Separate tabulations were made of letters, editorials, reviews, and advertisements. The content of each article was classified into one of nine categories. Black coverage failed to show a linear increase over time. The proportion of coverage in subject categories and the sensitivity of these to both the increased visibility of black Americans with the broader society varied. The portrayals of blacks in everyday life was consistently low throughout the 35 year history.

LEMERT, JAMES B., & ASHMA, MARGUERITE GEMSON. Extent of mobilizing information in opinion and news magazines. *Journalism Quarterly*, Winter 1983, *60*, 657-662.

Questions whether opinion magazines of the left and right will provide mobilizing information (information that allows people to act on the attitudes they already have) in their coverage of politics and public affairs more often than news magazines and whether longer magazine articles will include such information more often than short articles will. Varying number of issues of three news magazines, four left or liberal opinion and four conservative opinion, were examined for items of politics and public affairs. Three types of codes (locational, identificational, tactical) became the criteria for judging the presence of mobilizing information. The use of Multiple Classification Analysis reduced the predictors from 11 to 3: the magazine group, the coder control variable, and the length of the article. Liberal opinion magazines had far more mobilizing information than either conservative opinion magazines or news magazines. The length of the article was very strongly related to the amount of mobilizing information given.

SOLEY, LAWRENCE C., & REID, LEONARD N. Advertising article productivity of the U.S. academic community. *Journalism Quarterly*, Autumn 1983, *60*, 464-469, 542

Analyzes 16 academic journals to determine the journal article productivity of United States academics in advertising from 1971 to 1980. The 962 advertising articles were coded for the author's university and discipline affiliations and academic rank. Two journals accounted for 60% of the advertising articles. Nearly three-fourths of the articles were credited to academics teaching at 151 universities and colleges with 20 universities being credited with 41% of the articles prepared by academics. Marketing faculty published more advertising articles than faculty from any other discipline. An inverse relationship was found between author academic rank and article productivity with assistant professors publishing the most followed by associate professors and professors.

CARDOZO, ARLENE ROSSEN. American magazine coverage of the Nazi Death-Camp Era. *Journalism Quarterly*, Winter 1983, *60*, 717-718.

Investigates the coverage of the Holocaust between November, 1941 - November, 1944 by American secular magazines. A total of 64 pertinent articles and editorials dealing with European Jewry was located in the *Reader's Guide to Periodical Literature*, supplemented by a hand search. Items were classified according to type and evaluated on the basis of seven characteristics. Opinion magazines ran 37 items; news magazines, 16; feature magazines, 11. Two magazines accounted for 30 of the total number.

TANKARD, JR., JAMES W.; CHANG, TSAN-KUO; & TSANG, KUO-JEN. Citation networks as indicators of journalism research activity. *Journalism Quarterly*, Spring 1984, *61*, 89-96, 124.

Examines the types, age, and frequency of reference citations in three volumes of *Journalism Quarterly* to identify the areas of recent concentration in journalism research and the classics of the field. Bibliographical data for each citation were recorded and used in a BASIC computer program which determined frequencies of each source. Co-citation networks were constructed, thus showing the frequencies of two or more documents being cited together in different research reports. The 224 full-length articles had 2,786 references; the "Research in Brief" selections had 660 references. Only a few sources were cited with high frequency as sources cited one, two, or three times made up 97.6% of the citations. No source was cited more than 11 times. Sources published within the last 10 years comprised 60% of all citations. The three sources that co-cited most frequently were considered classics. Examples of co-citation networks were included in the report.

III-3 Readability

BJÖRNSSON, C.H. Readability of newspapers in 11 languages. *Reading Research Quarterly*, Summer 1983, *18*, 480-497.

Explains a readability formula formulated in 1960 and applies the formula to newspapers written in different languages. The formula is sentence length (number of words per sentence) + word length (percentage of words with more than six letters) = lix (readability index). The early experimentation was detailed. The readability of 250 daily newspapers in the 11 languages included in the curricula for Swedish schools was measured in order to check the readability index norms previously used. The readability index rose as one moves from the north countries to the south. English and German newspaper readers have a more difficult language to read than their counterparts in Sweden. The newspapers proved to be more difficult to read than the material normally used in schools. The differences among the newspapers are largely due to the languages themselves, but journalistic tradition is also important.

Berner, R. Thomas. The narrative and the headline. *Newspaper Research Journal*, Summer 1983, *4*(3), 33-40.

Investigates the effects of different journalistic writing styles. An actual news story was taken from the *Philadelphia Inquirer* and reworked into four formats: 1) soft headline, soft lead; 2) hard headline, hard lead; 3) hard headline, soft lead; and 4) soft headline, hard lead. Students enrolled in a journalism course were asked to rate the various forms on criteria such as writing style, human interest, emotional appeal, timeliness, bias, readability, and other factors. Although there were some significant differences among forms, a pattern was not established between the hard and soft versions. The author argues for greater use of the narrative, feature style of writing for hard news.

III-4 Reading interests and preferences

Riffe, Daniel, & Belbase, Subhadra. Decision-maker views on foreign news. *Newspaper Research Journal*, Summer 1983, *4*(3), 17-24.

Examines the perceptions held by 297 members of the American Society of Newspaper Editors of the importance of international news among readers. The subjects responded to 11 Likert-type items and gave personal data. The major conclusion was that the news people perceived increasing reader interest in foreign news. Approximately 40%, however, conceded that their readers would not care if the foreign newshole was cut in half. Nearly 25% felt that readers were tired of Third World news. Decision-makers of larger papers did not perceive more reader interest in foreign news than those of smaller papers, but those in the smallest circulation group were more willing to reduce that content area.

Bainbridge, William Sims. Women in science fiction. *Sex Roles*, October 1982, *8*, 1081-1093.

Analyzes the involvement of women in contemporary science fiction, both as writers and readers. A 237-item questionnaire was completed by 245 women and 347 men who attended the 1978 World Science Fiction Convention. Correlations were made between preferences for eight literature types and sex. Women preferred the Feminist literature more than men did. Women authors tend to write either Sword-and Sorcery (heroic fantasy) or New-Wave science fiction (politically liberal and stylistically progressive form). They tend to prefer traditional Hard-Science science fiction less than men and do not write this variety. Most of the women authors use their fiction as a means of advocating social change from a feminist perspective.

Smithies, Michael. Reading habits at a Third World technological university. *Reading in a Foreign Language*, October 1983, *1*, 111-118.

Studies the reading habits of students at a technological university in Papua, New Guinea, to determine the extent of their reading. Four procedures were used in the investigation: questionnaires completed by 400 full-time students in their early university years, interviews with 100 randomly selected students, checking library loans, observing use of periodicals in the library. Little was read in the professional areas unless lecturers tested students on required reading. For most students reading was a chore. Preferred reading was comics and fiction. The library appeared to be used by only 40% of the students more than three times a week. Students appeared complacent about the breadth of their reading as 62% thought they read enough for their courses and 75% thought they read enough outside their classes. Both academic and administrative staffs appeared to use the university library relatively little. Ways to improve student reading were included.

Ngandu, Kathleen M., & O'Rourke, Bill. Reading attitudes, habits, interests, and motivations of the elderly. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 250-254.

Investigates the reading attitudes, habits, interests, and motivations of elderly adults. Subjects (n = 267) were aged between 60 and 93 years, with a mean age of 71 years, and were 67% female. A questionnaire containing a total of eight closed and open-ended questions was completed in writing, with help where needed. From five choices, 32% loved reading, and 55% liked reading. The most frequently read materials were newspapers (76%), magazines (63%), books (38%), pamphlets (20%), and the Bible (19%). The major sources of materials were subscriptions (59%), churches (29%), friends (27%), senior centers (23%), and libraries (19%). Average time spent reading and watching television daily was equally 2.4 hours. The preferred reading interests were religion (43%), and news (18%). The subjects read mainly for enjoyment (23%), to be informed or educated (23%), or to pass the time (20%). Twenty-six percent stated that there were times when they chose not to read because of eye difficulties.

III-5 Readership

Korzenny, Felipe; Neuendorf, Kimberly; Burgoon, Michael; Burgoon, Judee K.; & Greenberg, Bradley S. Cultural identification as predictor of content preferences of Hispanics. *Journalism Quarterly*, Winter 1983, *60*, 577-685, 770.

Questions how cultural identity influences newspaper readership and content preferences of 884 fifth and tenth graders in five western cities in the United States who completed questionnaires. Multiple regression analyses were performed for 7 dependent variables related to newspaper readership and content preferences and 11 independent variables collapsed into three sets. The most important predictors for daily newspaper reading were age, number of newspaper readers in the household, and reading the newspaper for news. Predictors for preference for news were reading the paper for news, for social learning, and preference for news on TV. Cultural identity did not predict differences in readership, preferences for hard news, or time spent in reading newspapers. Anglos and Spanish Americans were less likely to prefer local information news; Chicano and Mexican cultural identifications preferred features in the newspapers.

Olsen, Orjan. Measuring civic attitudes: Replications and extensions. *Newspaper Research Journal*, Summer 1983, *4*(4), 19-36.

Makes a secondary analysis of data from 10 different U.S. adult samples to validate a scale proposed by other researchers concerned with the concept of civic duty to keep informed, to determine the extent to which the public recognizes the concept, and to determine the relationship between civic attitudes and exposure to news media. Dependent variables were exposure to general media and news content. Civic duty was tested by the aforementioned scale. The principal conclusion drawn was that there were strong indications that increases in strengths of a citizen duty to keep informed are associated with significant increases in exposure to news media independent of the demographic variables tested: income, age, education, and sex of the subjects.

WEAVER, DAVID, & FIELDER, VIRGINIA DODGE. Civic attitudes and newspaper readership in Chicago. *Newspaper Research Journal*, Summer 1983, *4*(4), 11-18.

Explores relationships among demographics, civic attitudes, and frequency of daily newspaper reading. Telephone interviews were conducted with 603 residents of the Chicago area, approximately half living in the city and the remainder in the near suburbs. Two multiple regression analyses were carried out for city subjects, suburban subjects, and all subjects to determine the strength of demographics and the civic attitude scale as predictors of the frequency of reading the *Sun-Times* and the *Tribune*. For each group the first regression analysis used frequency of newspaper reading as the dependent variable and five demographic measures and the civic attitude scale as independent variables. In the second regression analysis the civic attitude scale was the dependent variable and demographics, the independent variable. Most demographics and the level of civic attitude were not predictive of the frequency of newspaper reading for city subjects; demographics were predictive for suburban dwellers but only if civic attitude is strong.

EINSIEDEL, E.F., & KANG, NAMJUN. Civic attitudes among non-readers and non-subscribers. *Newspaper Research Journal*, Summer 1983, *4*(4), 37-42.

Reports the results of the application of a scale which measured civic attitudes toward the need to keep informed to two subgroups: non-subscribers and non-readers, the latter subdivided into typical and atypical non-readers. The results were based upon a secondary analysis of a readership data base consisting of 1,598 in-person interviews conducted in Hawaii. Two-thirds of the non-readers scored low on the civic norm while fewer than half of the readers did. Typical (younger, less education, lower incomes) and atypical (similar to readers' demographic profiles) non-readers differed significantly (ANOVA) with the latter scoring higher on the civic norm. Readers low on education had significantly lower mean attitude scores than readers with high education but did not differ significantly on the norm from non-readers high in education. Differences on the civic norm were not so pronounced for subscribers and non-subscribers as for readers and non-readers.

EINSIEDEL, EDNA. Comparisons of subscribers and non-subscribers. *ANPA News Research Report*, December 27, 1983, No. 39, 3-11.

Analyzes 34 newspaper market data reports, varying from single-page summaries of research to detailed print-outs and concerning newspaper subscribers. The studies were grouped into appropriate content categories, and findings were presented for these groups of varying numbers. Among the numerous findings are the following: subscribers differ from non-subscribers in their greater use of newspapers and magazines and their greater exposure to broadcast news. Since they did not differ from non-subscribers in the general use of television and radio, it was concluded that the entertainment features in newspapers differentiated subscribers and non-subscribers. Subscribers exhibited higher levels of political interest, knowledge, and activity than non-subscribers. Subscribers tended to be older, to have higher incomes, white collar jobs, own their homes, and to have resided in the community for a longer time than non-subscribers.

Blood, R. Warwick; Keir, Gerald J.; & Kang, Namjun. Newspaper use and gratification in Hawaii. *Newspaper Research Journal*, Summer 1983, *4*(4), 43-52.

Explores the relationship between civic attitudes, frequency of newspaper readership, and traditional demographic predictors. The effects of gratifications sought are examined as contingent conditions for the relationship between frequency of newspaper readership and civic attitudes. This is a secondary analysis of a 1980 Hawaiian study in which 1,598 subjects were interviewed in their homes. The civic attitude and gratifications-sought measures were positively associated with newspaper readership but not with television viewing. A factor analysis was able to empirically distinguish between the foregoing two measures. The list of newspaper gratifications tapped two separate newspaper functions (need to be informed and entertainment) and both are distinct from the civic index items.

Weibull, Lennart. Newspaper readership in Sweden. *Newspaper Research Journal*, Summer 1983, *4*(4), 53-64.

Determines the relative role of demographic and social interest variables in the quantity and quality of Swedish newspaper readership. The results for this part of a larger study were based upon the responses to a mailed questionnaire by 665 subjects. It was concluded that all background factors, as age, income, and interest in politics, contribute to whether or not one reads the newspaper. The situation and position of the people seemed to structure the general readership level with the interest factor adding effects in specific groups. The average newspaper reading time is about 30 minutes per day with subscribers and older people spending more time reading than others. The effects of civic attitudes were more evident on reading time than on readership itself. The level of newspaper readership in Sweden is high and stable with only minor variations. Swedish newspapers have managed to keep their readers and have been especially effective in making low status persons regular readers.

Weibull, Lennart. Political factors in newspaper readership. *Communication Research*, July 1983, *10*, 311-331.

Analyzes how the Swedish party press was affected by structural changes in the newspaper market in Sweden during the process of newspaper concentration. Data gathered by the Swedish Election Research Program at the University of Göteborg were used in the analysis. It was shown that a substantial part of the Swedish public reads a morning paper of their own party outlook although the number has decreased in the last 25 years and that access to newspapers increases the probability of reading a paper of one's own party. It was concluded that the Swedish political press was relatively strong because of three factors: the parties' ties to newspapers, the government subsidy system, and the citizens' experiences with the party press.

Andreasen, Margaret, & Steeves, H. Leslie. Employed women's assertiveness and openness as shown in magazine use. *Journalism Quarterly*, Autumn 1983, *60*, 449-457.

Investigates the types of periodicals read and informational needs of assertive and unassertive women. From the 378 women who kept a 7-day activity and media-use diary and completed a 13-page questionnaire, 106 were classified as assertive based upon their positive response to one question. The 93 who responded negatively were considered to be unassertive. Categories were established for both the types of magazines read and informational topic needs. Assertive women read more magazines including more news, professional, documentary, hobby and craft magazines, and progressive women's magazines than unassertive women. The latter were committed to traditional women's and general interest magazines. The subjects' diaries revealed no significant difference between the time assertives and unassertives spent reading magazines during the recorded period. Assertive women expressed a need for information on more topics than unassertive women did.

Swisher, Robert, & Smith, Peggy C. Journals read by ACRL academic librarians, 1973 and 1978. *College & Research Libraries*, January 1982, *43*, 51-58.

Compares the amounts and kinds of professional journal reading done by academic librarians holding membership in the Association of College & Research Libraries in 1973 and in 1978. Questionnaires were completed by 259 librarians in 1973 and by 357 in 1978. They were asked one question about library-related titles they read regularly for purposes other than for materials selection and another about nonlibrary professional titles read regularly. For both years the subjects averaged approximately seven journals read regularly. The same three titles were the ones most frequently read both years. An analysis of the 1978 data indicated that 7% of the titles cited accounted for 80% of the journal reading. Several titles given in 1973 lost readership in 1978 because of the appearance of a new journal.

Sinko, Peggy Tuck, & Peters, Scott N. A survey of genealogists at the Newberry Library. *Library Trends*, Summer 1983, *32*, 97-109.

Surveys by mail 250 genealogists to determine their demographic characteristics and their perceptions of the services provided by the Newberry Library in Chicago. The majority were women, casual lobbyists, college education, self-instructed in genealogical methods. They use different libraries and correspond with people and agencies. Most of the subjects lived within 50 miles of the Newberry Library, were not regular users of the library, and were satisfied with the services there. When genealogists are considered individually, they are a diverse group and cannot be neatly described. Genealogy attracts all kinds of people with different degrees of interest and needs.

Johnson, J. David. The dimensionality of readership measures. *Communication Research*, October 1982, *9*, 607-616.

Classifies commonly used measures of readership into three general dimensions based upon their generality and the extent to which they are tied to concrete behaviors. Factor analysis of specific responses related to the three dimensions was used to test the resulting model in a readership study conducted in Venezuela. For this part of the study 134 readers who had read one of the recent issues of *Horizons USA* were the subjects. The results of the factor analysis demonstrated that these dimensions provided a good fit to the data, with higher loadings and less measurement error occurring with the most abstract measures. The intercorrelations among the dimensions indicated differing underlying dimensions readership.

Grotta, Gerald L., & Babbili, Anantha S. Daily newspaper subscribing behavior: "Atypical" segments key to circulation. *Newspaper Research Journal*, Winter 1983, *5*(2), 3-8.

Analyzes newspaper subscribers and non-subscribers to determine whether the two groups are distinct or whether there are atypical subgroups. Data were derived from two major surveys, one involving 1,102 random interviews for a small daily newspaper in the Southeast and the other involving 1,105 random interviews for a large newspaper in the Southwest. These telephone interviews included standard newspaper readership questions. Subscribers were asked if they were likely to continue their subscriptions while non-subscribers told of their likelihood of subscribing in the future. Four classifications emerged: hard-core subscribers, marginal subscribers, potential subscribers, and hard-core non-subscribers. In both surveys marginal and potential subscribers tended to have similar content interests. Hard-core subscribers were generally interested in most content while hard-core non-subscribers were less interested in most content.

III-6 Library usage

TEINILÄ, LEENA. Children's libraries and literature in Finland. *Scandinavian Public Library Quarterly*, 1983, *16*(3), 66-67.

Surveys the status of Finnish children's libraries and their operations in light of research studies and education programs. Since 1950 all municipalities in Finland have had a public library system, consisting of main, branch, amd mobile libraries. The results of a 1978 survey showed that the most common forms of extra-curricular activities in children's libraries were instruction in the use of public libraries and story hours, followed by musical events, quizzes, puppet shows, and film shows. In recent years the emphasis has changed from the foregoing activities to library collections. Readership studies revealed that 51% of the young are active readers and 23%, occasional readers. Young people are more active than adults in reading and find the library is the most common source for acquiring books. Book borrowing for children grew rapidly between 1946 and 1953, continued to grow in the 1950s, declined in the early 1960s, grew rapidly in the early 1970s, and leveled off in the 1970s.

LANGFELDT, MARGRETHE. Children's librarianship in Norway. *Scandinavian Public Library Quarterly*, 1983, *16*(3), 67-69.

Reports upon a survey conducted in 1982 by the Association of Authors of adolescent literature to determine the types of library services provided for children in 12 boroughs in four different counties in Norway. It was found that children borrowed more books and more frequently than adults but had a more limited number of titles available than adults. Obstacles to school library use included limited opening hours, unsatisfactory localities, little variation in book selection, too few copies, and no reservation policies. Public libraries also presented children with obstacles. School library service comprises 3,700 units; public library services, 1,380 children's departments. To maintain a national literature, the Norwegian government has administered support schemes since 1966.

AARON, SHIRLEY L. (Ed.). Current research. *School Media Quarterly*, Summer 1982, *10*, 382-385.

Reviews briefly three studies concerned with school media centers. In the first study 13 secondary schools were analyzed to identify factors that contributed to the availability of library materials. The second study provided a description of the use of libraries and library resources by ninth grade honors students in science who received training in bibliographic searching and conventional modes of obtaining materials. In the third study a survey of 22 secondary school libraries was conducted to determine the extent of their participation in regional cooperative activities. Included in the report for each study were the purposes, methodology, and conclusions or implications.

WALKER, H. THOMAS. Networking and school library media centers: A report of a pilot project of the Howard County (Maryland) Public School System and the Maryland interlibrary organization. *School Library Media Quarterly*, Fall 1983, *12*, 20-28.

Reports upon the utilization of information networking to one school library media center in a pilot study. The sources of data included the interlibrary loan requests made by students and teachers at the elementary, junior high and senior high school levels, central office professionals; and clerical staff; attitudinal questionnaire completed by school library media specialists; and a network use questionnaire completed by each borrower. Data were analyzed by chi-square analysis and Kendall's test of rank correlation. A relatively small number of student requests in relation to the size of student population did not change the positive attitude toward the networking system. High school students requested class assignment materials and older materials more than those requested by other students. Elementary students specified materials for personal interests. For all subjects 74.25% were author/title requests for monographic materials; 24.89%, serial/periodical; .85% subject or reference requests. Requests were not considered to be trivial ones.

DANIELS, ANGELA M. Educational objectives and school library resource provision. *Education Libraries Bulletin*, Spring 1983, *26*(1), 44-60.

Surveys head teachers in six West Midlands, England, schools by means of questionnaires and interviews, to determine the relationships between stated educational objectives and the provision and use of library resources for the 11-16 age range. Library resource provisions were found to be inadequate in all aspects and not directly related to the educational objectives. Only a minority of pupils made regular use of libraries, largely to fulfill their own interests and not to meet course requirements. The objectives for English teaching were reflected in the fiction holdings, but this was not the case for other subjects.

RUDDOCK, JEAN. The academic sixth form, books and libraries, and the nature of knowledge. *Education Libraries Bulletin*, Autumn 1983, *26*(3), 9-15.

Reports upon a portion of a project concerned with library access and sixth form study in England. The data revealed the difficulty students encounter in learning to regard knowledge as problematic. Interviews were conducted with 200 students, 200 teachers, 50 librarians, and 60 heads from 24 sixth form schools. From the interviews with librarians it was found that they had different concerns and that tension existed between departmental and main libraries. Independence in the use of books and the library is defined as social independence or maturity and intellectual independence. The library was seen as a potential force in helping young people make the transition from pupils into students.

MANCALL, JACQUELINE C., & DROTT, M. CARL. Materials used by high school students in preparing independent study projects: A bibliometric approach. *Library Research*, Fall 1979, *1*, 223-236.

Describes the resources used by 270 academic high school students from six schools in the preparation of independent research papers. Bibliographies of these papers were analyzed for types of references used. The combined bibliographies of the papers contained 3,165 identifiable references, 67% being to monographs, 20% to journals, and 13% to other sources (encyclopedias, newspapers, government documents, pamphlets, nonprint items). These students used older materials more than current publications. From questionnaire responses it was found that there was a strong tendency for students to use more than one library as a source of materials.

PRATHER, JAMES E.; RUSSELL, RALPH E.; & CLEMONS, MICHAEL L. Library resources of a metropolitan university—Assessment by users. *College & Research Libraries*, January 1983, *44*, 59-65.

Examines the characteristics of library users and their perceptions of library adequacy at a large, urban university. The users included students and faculty of the university as well as students from a private college confederation. A random sample of questionnaires stratified by day and time was distributed to users during nine consecutive days. From a sample of 3,356 users, 85% were affiliated with the university. More than one-third of the users indicated that their field of interest was business administration, followed by education. Of all users 34% used the library daily; 46%, weekly; 12%, monthly. Affiliated students were least likely to be looking for books while nonaffiliated students sought mainly books. Up to one-fifth used the library as a social resource, not an academic one.

Whitlatch, Jo Bell. Library use patterns among full- and part-time faculty and students. *College & Research Libraries*, March 1983, *44*, 141-152.

Surveys through questionnaires 1,470 college students in a random sample of classes and 1,753 faculty members to determine their use of the college and public libraries. For the faculty 443 (25.3%) returned the survey. Of the students, 12.2% never use the library, while 29.6% use the library once or twice a week. For the faculty, 31.9% use the library once a week or more, but 5.2% never use the library. Students never using the library are more likely to be evening students, part-time, female, and white or black rather than other ethnic groups. Faculty members seldom or never using the library are more likely to be evening instructors, part-time, and temporary. Faculty using the library the most tended to be full-time, tenure-track, and teach primarily during the day. Business students and business, applied arts, and engineering faculty used the library the least; those in the humanities and social science disciplines, the most.

Ross, Johanna. Observations of browsing behavior in an academic library. *College & Research Libraries*, July 1983, *44*, 269-276.

Examines the browsing behavior of university students through observation. Browsing intensity was measured by recording the number of books removed and replaced on the shelves and the time spent performing the activity. Observed time, day of the week, and place within the library were determined randomly and were recorded for each patron. Of the 520 fifteen-minute intervals selected, no browsing occurred in 98. In the remaining 422 sessions, 515 patrons were observed. The number of books replaced per patron was between 5.02 and 6.0. The mean time spent at the shelf was between 12.99 and 14.77 minutes.

Holicky, Bernard H. The collection use survey: The Purdue University Calumet experience. *College & Research Libraries News*, May 1983, *44*, 154.

Evaluates the use of bound and unbound periodicals in a university library in three surveys. In the first the use of periodicals was measured by recording each one in daily pickups for a two-day period each fall and spring semester. In the second phase of the study the home use of bound periodicals was assessed during the summer. During the following summer 1,000 volumes were sampled to determine their circulation. The results of each phase of this study showed that periodicals were not used extensively and that less money should be spent on them and more on books.

Golden, Gary A.; Golden, Susan U.; & Lenzini, Rebecca T. Patron approaches to serials: A user study. *College & Research Libraries*, January 1982, *43*, 22-30.

Assesses the success of 445 university library patrons in using a card catalogue to locate serial publications. Those interviewed were selected on a planned time basis and answered questions concerning their success or lack of it in their retrieval of four types of serials: journals and magazines, proceedings, annual reports, and government documents. Of the searches studied, 83% were successful. Frequency of serial catalogue usage, written citations, referral to the serial catalogue, and previous serial catalogue instruction were not related to successful library searches. User failures accounted for 49% of unsuccessful searches.

TRUETT, CAROL. Services to developmental education students in the community college: Does the library have a role? *College & Research Libraries*, January 1983, *44*, 20-28.

Surveys through a questionnaire 43 librarians in two-year community colleges in Texas to determine if services were provided to developmental education students or programs. Descriptive and correlation analyses were performed on the data. Although 90% of these colleges had well developed education programs, fewer than 28% provided a large number of services for such programs. The most frequently offered courses were, in order, developmental reading, developmental English, and developmental mathematics. Special library instruction and bilingual handbooks were not offered in many schools. No relationship was found between the percentage of students remaining in classes until the end of the semester and the level of library services offered to developmental studies students.

D'ELIA, GEORGE. A procedure for identifying and surveying potential users of public libraries. *Library Research*, Fall 1980, *2*, 239-249.

Illustrates a procedure for identifying potential library users from among current nonusers in a sample of 200 adults, equally divided between users and nonusers. A telephone questionnaire included questions concerning frequency of library use and behavioral and demographic characteristics. Nonusers answered additional questions measuring reactions to possible reasons for not using the library and their interest in different library services. The frequency of library use scale was regressed onto the seven variables measuring the characteristics and behaviors of the subject. Using the model that was developed, a predicted frequency of use score was computed for each nonuser which identified 43 subjects as potential users. Differences between potential users and the remainder of the nonusers were pointed out.

PALMER, E. SUSAN. The effect of distance on public library use: A literature survey. *Library Research*, Winter 1981, *3*, 315-354.

Reviews research about library users and their distances from the library. After a brief examination of historical trends in library location theory, a wide variety of research is reviewed concerning distance and the library user, especially in rural or poorly served areas; available means of transportation to the library; elasticity of demands (willingness to use other libraries if needs are not met in a first library); shopping patterns and proximity to shopping areas; patrons' perceptions of distances; and user characteristics. A brief overview of generalized decision models developed for a wide range of public facilities was included for use in the planning of new libraries.

WILLARD, PATRICIA, & TEECE, VIVA. Satisfying the user: A look at a local public library. *The Australian Library Journal*, February 1983, *32*(1), 41-46.

Interviews 226 adult library users over a one-week period in Sydney, Australia, to determine the reason for their visit to the library. Of those interviewed 130 were female and 96, male; the largest group of users was women in the 20-34 age range. Almost 50% came to the library to choose material by browsing. The other two major reasons given were to borrow a specific item or to answer a specific information need, each receiving less than 20% of the responses. The study revealed a high level of self service by the library clients.

D'ELIA, GEORGE, & WALSH, SANDRA. User satisfaction with library service—A measure of public library performance. *The Library Quarterly*, April 1983, *53*, 109-133.

Reports upon user satisfaction with public library services by 623 adult patrons. An attempt was made to demonstrate descriptive, diagnostic, and behavioral properties of direct and indirect measures of a user satisfaction construct. Users were asked to evaluate the overall quality of the library's services (indirect measurement) and their general satisfaction with library's services (direct). Demographic data were obtained. Multiple regression analyses were used to analyze the data. The results showed that the construct was potentially useful for evaluating services within a library, that the construct was not related to the user's degree of library use, and that the construct should not be used to compare presumed levels of performance for libraries serving different communities since it was not affected by demographic characteristics of the users.

D'ELIA, GEORGE. A procedure for developing a typology of adult users of the public library. *Library Research*, Summer 1981, *3*, 123-140.

Reports the results of two replication studies and develops a typology of library users based upon their style and frequency of their use. In the first study 208 adults answered questionnaires; in the second, 200 subjects responded to a telephone interview. Factor analyses were performed. Based upon the results, two different types or styles of library use were identified. Type 1 use was related to frequency of visits, importance attached to these visits, the average circulation per visit, and use of time. Type 2 use was related to the user's range of reading interests, the average duration per visit, and the number of different services used. User characteristics and library use activities related to style of use were detailed. Type 2 use was related to more activities than Type 1, appeared to be related to uses other than book collections, and used many services and collections. Type 1 use was related principally to use of library collections.

OSIOBE, S.A. Factors inhibiting public library use. *Library Review*, Spring 1981, *30*, 13-17.

Surveys 293 adults in Nigeria during a 12-day period to determine factors that limited the users of Bendel State Library at Warri from making fuller use of it and to solicit suggestions for improvements to be made in a new library. The resulting limiting factors were distance from the library, lack of seating space within the library, and noise. Library hours and the stock of books did not appear to be problems. Desired improvements were, in order of preference, additonal space with tables and chairs, more books in different subject areas, more reference books, air conditioning, photo-copying unit, and carrels.

FRYER, DAVID, & PAYNE, ROY. Book borrowing and unemployment. *Library Review*, Autumn 1983, *32*, 196-206.

Reports upon three studies to determine if there is a relationship between book borrowing and unemployment. In the first two studies, statistics about books borrowed by users from one library service and the numbers of unemployed people were available and compared. The study was replicated in another library service. In both studies there was no evidence that book borrowing from public libraries declined as registered unemployment increased as had happened in the 1930s. In the third study, which was a part of a larger study, 399 unemployed men were interviewed. Five of the questions were concerned with their use of the library. The subjects were asked if they did more, the same, less, or whether the activity was something they never did. These subjects reported using libraries and reading books and papers obtained from other sources more than previously.

BUDD, JOHN, & DICARLO, MIKE. Measures of user evaluation at two academic libraries: Prolegomena. *Library Research*, Spring 1982, *4*, 71-84.

Surveys faculty members and students in two universities to determine if they were satisfied with the holdings and services in their libraries. Separate questionnaires were prepared for students and professors. The subjects were asked to estimate the importance of each item and to rate the libraries' performance in that area on a 6-point scale. Faculty members (116, 56) were satisfied with services but not with materials. The students (151, 140) perceived the libraries to be deficient in both materials and services.

III-7 History of libraries

STIELOW, FREDERICK. Storehouse, house, or adjunct? Toward a theory of the development of college and university libraries in the late nineteenth century. *CSIL: Current Studies in Librarianship*, Spring/Fall 1981, *5*(1&2), 41-50.

Reviews research and articles concerned with early college and university libraries found in the issues of the first 25 years of the *Library Journal*. A continuing college section first appeared in 1889, but numerous articles about these libraries were included in the journal from its inception in 1876.

DESROCHES, RICHARD A. The library at Alexandria. *CSIL: Current Studies in Librarianship*, Spring/Fall 1983, *7*(1&2), 23-29.

Traces the history of the library at Alexandria from approximately the fourth century B.C., through its high peak in the second century, until its complete destruction in 646 A.D. The library was not the first in the world as the earliest ones housed records of trade, taxation, crop production, and astronomical information. Evidence indicates that the library had acquisitions and cataloguing departments, an interlibrary loan system, and a union catalog with the Pergamon library. When the library was at its peak, such people as Euclid, Aeschylus, Euripides, Aristotle, and Archimides contributed their writings to it. The fall of the library was closely tied to the fall of the Roman Empire. A fire ruined 400,000 volumes, and the remainder 400,000 were burned by the Muslims who invaded Alexandria in 646 A.D.

DEAN, ELIZABETH A. The organization of Italian libraries from the unification until 1940. *The Library Quarterly*, October 1983, *53*, 399-419.

Traces the problems and the organization of Italian libraries from 1860 to 1940. When Italy was politically unified in the 1860s, there were 210 governmental libraries, of which 164 were open to the public, and also private and institutional libraries. Within the period studied, the development of libraries was influenced by governmental and historical events. Librarians were constantly frustrated by lack of funds, poor library organization, lack of space for shelving books, and inflexibility of governmental bureaucracy. Although the preservation of the Italian bibliographic heritage was considered very important, the Italian unification movement and fascism failed to create a strong library organization in Italy. Library science remained undeveloped. The popular libraries became organs for propaganda rather than centers for public reading.

CYR, JEANNINE. The Providence Athenaeum: An old library with a lesson for the future. *CSIL: Current Studies in Librarianship*, Spring/Fall 1983, *7*(1&2), 30-38.

Traces the history of the Providence Athenaeum, an example of the social library, a phenomenon of the eighteenth and nineteenth centuries. The library of Benjamin Franklin's Junto, a debating society, was the ancestor of social libraries. All members of social libraries provided the book collections. The social libraries were of two basic forms: subscription, in which dues were paid, and proprietary, or partial ownership. The Providence Athenaeum, founded in 1831, continues to be popular today, but the overwhelming majority of social libraries went out of existence over a hundred years ago.

CHANDLER, G. The Japanese library and information system: A broad comparative survey of its evolution and structure 1947-82. *International Library Review*, October 1983, *15*, 389-407.

Details the principal aspects in the Japanese library and information system during the period 1947-1982, arranged chronologically according to the dates when the various elements were developed. The library system was not formally planned but emerged mainly as a result of legislation or governmental decisions based on the identification of priorities. For the six time periods discussed, data about holdings, legislation, library organization, numbers of libraries and the like were given. Comparisons were made between Japanese libraries and those in other countries for each time period discussed.

III-8 Status and development of libraries

AMAN, MOHAMMED M., & KHALIFA, SHA'BAN A. Libraries and librarianship in Qatar. *International Library Review*, July 1983, *15*, 263-272.

Describes library services in Qatar. Today there are 64 libraries there: 54 school libraries, 2 university libraries, 5 special libraries, and one national library. The National Library, established in 1963, serves the public, provides special services to the Ministry of Education, collects library materials, preserves the intellectual heritage of the Arab and Islamic world. In 1973 its role in education was transferred to the Department of School Libraries. There was no use for public libraries before the discovery of oil in 1949 since the few people who lived in Qatar were generally illiterate. With the advent of formal education beginning in 1952 for males and in 1953 for females, there was a demand for libraries. The government plans to establish a new public library every two years until library services are provided for all citizens in Qatar. Because there are separate schools for males and females, there are also separate libraries.

DOLL, CAROL A. School and public library collection overlap and the implications for networking. *School Media Quarterly*, Spring 1983, *11*, 193-199.

Compares holdings of books, magazines, filmstrips, and sound recordings in two elementary school libraries and one public library in each of four Illinois communities. A random sample of 200 titles was drawn from the shelflist of each library and checked against the card catalogs of the other two libraries. The overlap was 30% in the elementary schools and 50% in school and public libraries in the same communities. Public libraries own more spoken-English sound recordings and magazine titles than school libraries; conversely, school libraries have more science filmstrips than public libraries. It was concluded that there was enough difference among the libraries that resource sharing would make more titles accessible for library users.

Rudolph, Janell, & Byunn, Kit. Academic library newspaper collections: Developing policy. *College and Research Libraries*, January 1982, *43*, 80-83.

Surveys through a questionnaire 23 university libraries about their policies governing newspaper acquisition. The questionnaire was part of a self study, the results leading to a newspaper selection policy. The mean number of newspaper subscriptions was 99 with a range of 16 to 327. The respondents considered the most important factor in the selection of newspapers and microfilm was curriculum support; the least important, recreational interest. Cooperative acquisition with regional libraries is not the current practice of most of these libraries although they favored this method of providing needed newspapers. Only eight stated that they had newspaper acquisition policies.

Fasick, Adele M., & Wilkinson, John P. To buy or not to buy: An analysis of some school library purchasing. *Canadian Library Journal*, April 1983, *40*, 67-73.

Mails questionnaires to a random sample of elementary school libraries in Ontario to determine the reasons they did or did not subscribe to two magazines published in Ontario and three in the United States. Almost half of the libraries subscribed to four of these magazines. One was purchased by only 6% because it was written in French. No evidence was found that librarians preferred American magazines over Canadian ones. Almost half of the librarians first heard of magazines through personal recommendations. The majority of librarians viewed magazines as useful for pleasure reading and browsing more than for reference functions.

Williams, Robert V. Sources of the variability in level of public library development in the United States: A comparative analysis. *Library Research*, Summer 1980, *2*, 157-176.

Determines sources of the variability in library development by means of three investigations which determined: 1) the relationships between a set of nine societal characteristics and library development; 2) the relative importance of these characteristics in explaining the variation in library development; and 3) the extent to which these characteristics were the same in different geographical areas in the United States. The relationships of the characteristics and an empirically constructed index of public library development were tested by correlation and stepwise regression procedures. The level of education variable explained approximately 50% of the variance in the index of library development and was considered to have general explanatory power in regions across the United States. In the absence of education information, economic ability and occupational prestige could be substituted. The remaining six variables, generally associated with library development, had limited additional explanatory power. Data were obtained from different national sources and related to 1,441 libraries.

III-9 Literacy and illiteracy

Lehr, Fran. Adult literacy. *Journal of Reading*, November 1983, *27*, 176-179.

Reviews recent research on adult literacy. The topics covered include definitions and assessment of adult literacy and ways to attract illiterate adults to literacy programs. Barriers that deter adults from programs were identified as situational ones (lack of time, money, transportation, child care), dispositional ones (attitudes about oneself as a learner), and institutional ones (inconvenient schedules, course offerings). It was concluded that creating effective programs for adults is a difficult task and that the most effective ones are community based.

BICKEL, ROBERT, & MILTON, SANDE. The social circumstances of illiteracy: Interpretation and exchange in a class-based society. *The Urban Review*, 1983, *15*(4), 203-215.

Reviews research which supports the writers' theory of illiteracy in social structural settings rather than as an individual psychological phenomenon. The research reviewed was concerned with the context in which illiteracy is found, illiteracy and the politics of the classroom, and the social structure and structural links of illiteracy and the foregoing politics. It was concluded that institutional complexes and their attendant cultures are durable and create the social and cultural circumstances of their own durability and that illiteracy is a response to concrete circumstances and a means of unselfconsciously reproducing a class-based society.

GUTHRIE, JOHN T., & KIRSCH, IRWIN S. The emergent perspective on literacy. *Phi Delta Kappan*, January 1984, *65*, 351-355.

Proposes a social-interaction perspective on literacy after reviewing research concerning a traditional perspective of literacy. It was shown that a traditional approach to the problem of illiteracy will continue to lead to inappropriate evaluations of literacy and to inefficient education. Because people read different materials in different ways for different purposes, this multiplicity implies a broad range of reading competencies. When literacy is embedded in its social matrix, diversity results as purposes vary for different contexts and for different people within these contexts. Reading purposes in school should be distinguished from those in occupational settings.

GRANT, W. VANCE. Illiteracy in the United States. *American Education*, August/September 1982, *18*(7), 45.

Determines that the illiteracy rate in the United States was nearly cut in half in the 1970s. Although the Bureau of the Census has collected statistics on illiteracy since 1840, it is only since 1870 that reasonable comparability has been maintained. The proportion of illiterates in the 1870 population was more than 30 times as large as it is today. In 1870, 11.5% of the whites were illiterate as compared to 79.9% of blacks and other races. In 1979 the illiteracy rates were 0.4% for whites and 1.6% for blacks.

LEVINE, KENNETH. Functional literacy: Fond illusions and false economies. *Harvard Educational Review*, August 1982, *52*, 249-266.

Critiques existing ideas about the concept of functional literacy and suggests an approach that places literacy competencies in their social context. Adult basic education has been influenced by the concept of functional literacy although, according to the writer, the term does not refer to a distinctive perspective or practice but is based upon flawed assumptions and ambiguities. The report includes a brief history of functional literacy, including various definitions; and economic approach to literacy in its social context. The heavy emphasis on reading at the expense of writing raises questions about the political and social interests underlying adult literacy as a whole.

MCDERMOTT, PETER. Conversational asides: The social context of an adult literacy class. *Journal of Reading Behavior*, 1982, *14*(4), 461-473.

Analyzes students' and teacher's asides (side-conversations) in three time periods: waiting (first arrival to class), entry (of teacher), instruction. An adult literacy class was examined for five-and-one-half months. Sources of data included transcripts made from audio recordings of verbal interactions, field notes, interviews with students, records from classroom teachers. The purpose of the investigation was to obtain an account of the social context of a single literacy class. Examples of different kinds of asides are included. Social interaction was frequent, friendly and informal. Students oriented their behaviors to the teacher's presence in the classroom.

SPOLSKY, BERNARD. Sociolinguistics of literacy, bilingual education, and *Tesol. TESOL Quarterly*, June 1982, *16*, 141-151.

Shows that the sociolinguistics of literacy provide a method for understanding how and why each curricular approach is appropriate to the situation in which it was developed. Three cases were described to illustrate the sociolinguistic approach. In the history of Jewish education the change in attitude towards literacy, involving the acceptance of literacy for recording and learning both the Oral and Written Laws, may have been one of the factors that kept Hebrew alive even after it was no longer a spoken language. The contemporary bilingual program at one community school works currently for biliteracy. In an Indian school reading used standard language to achieve a measure of community access to a curriculum that is usually only possible with a bilingual program.

DYMOCK, DARRYL. Adult illiteracy in perspective. *Australian Journal of Reading*, August 1983, *6*, 108-116.

Reports upon the status of illiteracy in Australia by using data from various surveys conducted there. Researchers have investigated possible reasons for Australian illiteracy with the major ones being those related to the home, teacher's approach, school's approach, innate disabilities of learner, and learner's attitude. In 1976 sustained attempts were started to combat illiteracy in Australia. In 1983 there were more than 200 adult literacy programs and a number of government support agencies there. Government bodies do not recognize that helping adults to become literate is a long-term project and requires long-term and stable funding. Other problems are the numbers who need the help but are not being reached, lack of suitable instructional materials, and the many different needs of the students.

MEYER, BARBARA. Education and patterns of communication in a situation of restricted literacy. *Scottish Educational Review*, May 1982, *14*, 23-30.

Discusses the interaction between oral and literate modes of communication in an Islamic context of West Africa, predominantly an oral culture. Communication here was considered both in a formal learning situation and as a shared informal process between literate and non-literate members of the community. Islam literacy does not make full use of the medium of writing, largely because of a lack of books and writing materials. At the center of Islamic elementary education is the transmission of Islamic culture, reading and writing of the Koran, and the basic rules of the Muslim way of life. Lack of academic debate and memorization characterize Islamic education. The instruction was orally transmitted, sometimes with prose texts put into verse to facilitate easier memorization.

III-10 Reading in non-school settings

GUTHRIE, JOHN T. Literacy for science and technology. *Journal of Reading*, February 1984, *27*, 478-480.

Comments upon studies concerned with scientific literacy in different technological occupations, including one study by the writer and his colleague. For the vast majority of occupations surveyed reading demands were rated as moderate to heavy, but reading skills of employees were often found to be inadequate. Survey authors found the consequence of inadequate reading to be a loss of time and productivity. Included in this review of research are reports of the amount of time spent reading on or for the jobs, the types of reading tasks, and reading practices of different kinds of workers. The seven outcomes of science and education proposed by the National Science Foundation Board are included in the report.

III-11 History of reading instruction

SAENGER, PAUL. Silent reading: Its impact on late medieval script and society. *Viator*, 1982, *13*, 367-414.

Argues that, contrary to the views popularized by some historians, the tradition of silent reading was firmly ensconced in Europe prior to the development of the printing press and this tradition influenced written communication, libraries, and the culture of the Middle Ages, in general. Roman prose and even letters were intended to be read orally. Books of the ancient Romans were ill-suited to private visual reading and study, due, in part, to the fact that the typical Roman book contained no punctuation, no distinction between upper- and lowercase letters, no word separation. The author states that word separation was a major contribution of the Middle Ages to the evolution of communication in the Western world and was a major advance toward silent reading. Dividing text into words, which began as an aid to oral reading, permitted the faster silent copying of texts by scribes. Word separation both facilitated silent writing by an author as opposed to dictation and led to differences in an author's expectations about silent/oral reading. In turn, the change to silent reading effected changes in libraries. The cloister libraries of the twelfth century gave way to libraries in the thirteenth and fourteenth centuries where there were central halls with important reference books chained to lecterns and benches on which readers sat next to one another. Silent reading helped to stimulate the creation of larger university libraries and the formation of more private libraries. Because one could read silently, one's thoughts were removed from the sanctions of the group and curiosity was now under personal control. The author hypothesizes that silent reading may have stimulated zeal for religious reform and that the later reformist movements owed much to a long evolution in the manner in which men read and wrote.

DE CASTELL, SUZANNE, & LUKE, ALLAN. Defining 'literacy' in North American schools: Social and historical conditions and consequences. *Journal of Curriculum Studies*, October-December 1983, *15*, 373-389.

Traces the history of literacy and reading instruction in the United States and Canada from the seventeeth century. Included in this historical report is a discussion of general education issues, instructional materials, reading instruction methods, models of classical education, and similar topics. Principal trends in education were outlined for different periods, as socializing the recitation between 1900 and 1914 and the influences of social reform and industrial development in the early and mid twentieth century. Functional literacy as found during World War II, various commercial reading programs, and implications of the problems identified are discussed.

PUGH, A.K. Reading and the teaching of English. In Gwen Bray & A.K. Pugh (Eds.) *The Reading Connection*. London: Ward Lock Educational, 1980, 2-15.

Delineates historical, cultural, and ideological factors which have caused reading as a subject not to be taught in secondary education in Great Britain and have given to English an ill-defined role. Before this century reading was taught in elementary schools only. It received little prestige, was taught in an uninspired manner, and was viewed in a limited way. When English was taught, it was a changing conglomeration of interests. Today the teaching of English is firmly established, but there is much diversity in content and methods. English has accumulated responsibilities other than language and literature over the years. Today relatively little attention has been paid to reading instruction in secondary education either in its own right or as an aspect of the study of languages.

Reeves, Noelene, & Bessell-Browne, Thelma. What history can teach about teaching reading: Teaching reading in the Colony and State of Western Australia. In Thelma Bessell-Browne, Ross Latham, & Noelene Reeves (Eds.) *How to Teach Reading. . . and the Year of the Child.* Adelaide: Australian Reading Association, 1980, 129-142.

Traces reading instruction in Western Australia from 1829 when the Swan River Colony began until the early 1950s. Children in the nineteenth century were taught to read by the alphabet method with little consideration given to comprehension. The system of accountability in which teachers were paid according to the amount of student progress resulted in poor quality of teachers, since salaries were very low, and in poorer reading standards. The payment-by-results was discontinued in 1894. As the nineteenth century closed, there was much evidence that learning to read was neither pleasant nor successful for many pupils. Reforms in education, including reading instruction, began in 1890. Widened curriculums, new theories of education based upon scientific principles, new methods of instruction, and attempts to understand children were evident. In spite of the various reforms, teachers brought to Western Australia continued to stress phonics and oral reading skills. After the first World War the first readers prepared for Western Australia schools were published. Reading instruction became more effective during the early twentieth century. Expectations of literacy have risen dramatically during the past one hundred years. Throughout the report references were made to the teaching methods and reading materials prevalent in the different periods discussed.

Reeves, Noelene. Teaching convicts to read in colonial Australia. *Australian Journal of Reading*, June 1983, *6*, 65-72.

Describes reading instruction given to convicts in Australia during the early 1800s. The clergy and later on the surgeon-superintendent of a convict transport ship and the commandant in a penal institution insured that convicts who could not read were given the opportunity to learn. They were taught to name the letters, to spell long lists of syllables and words, and to read the religious and moral content of the primers, the Bible, and other religious materials. Patterns of reading instruction in the penitentiaries and with the chain gangs were described. No mention is made of teaching female convicts to read until 1843, but this particular incident did not last long. The convicts responded to the religious nature of the reading instruction rather than to an opportunity to become literate as most had no use for the reading skills as they were taught.

III-12 History of newspapers

Angelo, Frank. *On Guard: A History of the Detroit Free Press.* Detroit, Michigan: The Detroit Free Press, 1981.

Covers the history of the *Detroit Free Press* from its beginnings in 1831 as the Democratic Free Press and Michigan Intelligencer to its present position as the eighth largest newspaper in the U.S. The Free Press has been published without interruption, except when fires or strikes interrupted, since it first appeared. The paper began as a weekly, became a semi-weekly in June of 1835, and a daily in September of the same year. Today the paper has over 1,900 employees and is the largest U.S. paper to be printed by the offset method. In 1981, the Free Press won its sixth Pulitzer Prize, this one for photography.

HOGAN, LAWRENCE D. *A Black National News Service: The Associate Negro Press and Claude Barnett, 1919-1945.* Cranbury, N.J.: Associated University Presses, Inc., 1984.

Deals with black journalism in the 1920s, 1930s, and 1940s when several black papers achieved national status. The focus is upon the relationship between black national papers and the Associated Negro Press (ANP), an agency established in 1919 by Claude Barnett to provide news coverage on a national and international basis to black newspapers in America. The migration of blacks to large urban areas in the North following World War I and their segregation into ghettoes led to an increasing group identity to which national black weekly newspapers appealed. The first of the great national weeklies, the Chicago *Defender*, grew from a circulation of 300 in 1905 to over 230,000 by 1920, with two-thirds of the sales outside of Chicago. The growth and influence of these newspapers served as a catalyst for the establishment of ANP. Barnett saw the possibility of the papers ANP served reaching blacks with a message which could aid them advance their status. The ANP began with 80 newspapers as charter members. News went out twice weekly, with the first release concentrating on general news and the second on feature material plus additional news. Because member newspapers failed to supply news to ANP, Barnett had to build his own reporting staff. The service grew, but failure to reach an agreement with the Negro Newspaper Publishers Association in the 1940s led to the realization that support from the membership for building a more effective ANP was unrealistic. Black newspapers in the 1950s and 1960s also began to see a decline in readership as competition from black national magazines and other sources increased. This decline in turn led to the suspension of services by ANP in 1964.

SUGGS, HENRY LEWIS (Ed.). *The Black Press in the South, 1965-1979.* Westport, Connecticut: Greenwood Press, 1983.

Describes the development of the black press in the South. Each of 12 chapters, authored by different individuals, focusses upon a different state. In general, black newspapers did not exist in the South in the antebellum period. Most were initiated as an instrument to aid the newly freed slaves bridge the gap between slavery and freedom. They exerted the most power and were most influential during the post-Reconstruction period through World War I. Numbers of papers dropped rapidly during the Depression and continued to decline until recently. Inadequate funding, poor advertising, and inability to hold a professionally trained staff remain perennial problems of the Southern black press. This press is frequently the target of criticism, because many of the causes supported by the black press are unpopular.

HARLOW, SUSAN, & COULSON, DAVID. *High Country News:* An environmental newspaper that survived. *Mass Communication Review*, Winter/Spring 1982/83, *10*(1&2), 21-24.

Presents a case study of *High Country News* and explains its unusual longevity in spite of its small size and limited resources. This biweekly newspaper began in 1970 as an environmentalist mouthpiece of one person, Tom Bell. Explained in the report are the efforts made throughout the years for the newspaper to become more responsible and topical, to provide balanced interpretations, to account for the changing informational needs of its readers. Noted for its high quality writing and news reporting, it retains Bell's environmentalist philosophy, his concern for a Rocky Mountain West in a time of rapid energy development, and his close relationship with readers. The content has become more analytical and objective. The *News* has a reputation and influence greater than its small circulation would indicate and has gained professional stature while retaining its environmental principles.

Caspi, Dan. Media decentralization in a centralized system: The case of the local press in Israel, 1959-1980. *Gazette*, 1983, *31*(3), 171-184.

Traces the development of independent daily newspapers in Israel. Half of the 24 daily newspapers there are in Hebrew, eight being general-political and the remainder specializing in specific areas. The first local newspaper appeared in Eilat in 1959; since then, at least 120 local newspapers have appeared. After the Six Day War in Israel the trend toward decentralization increased in all areas and was felt in newspaper publication. Basic processes in the development of local newspapers from pre-journalistic stage onward are illustrated in a developmental model. Relationships between the local and nationwide press in Israel are similar to those in other countries. The growth of the local press was the result of socio-political factors which eroded the centralist nature of the political establishment.

Hadenius, Stig. The rise and possible fall of the Swedish party press. *Communication Research*, July 1983, *10*, 287-310.

Presents the historical background of the Swedish party press, an explanation of its current situation, and the possibilities for its future. The party press, an integral part of the Swedish political structure, began with *Aftonbladet* in 1830. Until the 1880s the papers were either conservative or liberal; after that time Social-Democratic newspapers were founded but had difficulty competing with right-wing papers. Sweden still has a stable political press system. Political parties have strengthened their influence over the press. Commentaries are politically biased. Although this bias has diminished in the news columns, a newspaper's political affiliation can be determined by news reports. The future of the party press will be determined by the economy and the ideology of new professional journalists.

III-13 Newspaper publication

van Dijk, Teun A. Discourse analysis: Its development and application to the structure of news. *Journal of Communication*, Spring 1983, *33*(2), 20-43.

Summarizes research and theory about the major aspects of discourse analysis and structure and applies these concepts to the study of printed news. In this case discourse analysis was based upon such disciplines as linguistics, semiotics, literary scholarship, psychology, sociology, and anthropology. The reader's set of expectations, cognitive and social functions of language choice, and semantic unity are important in news stories. Surface structure analysis, analysis of local and global coherence, and a specific news schema which is presented appear relevant in an account of media messages, the account being embedded in a cognitive model of news production, comprehension, and recall.

Hale, F. Dennis. Sunday newspaper circulation related to characteristics of the fifty States. *Newspaper Research Journal*, Fall 1983, *5*(1), 53-62.

Correlates comparative sociological, census, and mass media data on the 50 states with per capita circulation of weekday and Sunday newspapers in the states. Data were analyzed by Pearson correlations. Criterion variables were per capita daily and per capita Sunday circulations. Variables included 10 other mass media variables, 7 political characteristics, 6 economic characteristics, 14 sociological aspects, and 11 cultural variables. Numerous findings were reported. The study demonstrated that the Sunday newspaper is a distinct mass medium quite different from weekday newspapers. Considerable fluctuation in Sunday circulation was found from state to state, with social and economic characteristics accounting for much of the variation. Per capita Sunday circulation from state to state correlated significately with 23 of 48 state characteristics. Most were positive correlations.

BURGOON, JUDEE K.; BERNSTEIN, JAMES M.; & BURGOON, MICHAEL. Public and journalist perceptions of newspaper functions. *Newpaper Research Journal,* Fall 1983, *5*(1), 77-89.

Explores whether reporters and editors perceive newspaper functions differently and how each group's perceptions compare to those of the public. Telephone interviews were conducted with 6,112 adults from nine markets representing a mix of urban-suburban-rural and regional locations. Those who read newspapers rated their importance to them for different purposes of reading newspapers. The journalist sample included 1,118 news staffers from 83 newspapers and 7 television stations who rated the extent to which a newspaper/news broadcast should do each of nine functions. Comparable items were rank ordered from both groups. They agreed that the most important functions of newspapers were to provide accounts of significant events and information about the local communities. The principal difference was that journalists placed greater emphasis on their investigative roles than readers did.

TILLINGHAST, WILLIAM A. Source control and evaluation of newspaper inaccuracies. *Newspaper Research Journal*, Fall 1983, *5*(1), 13-24.

Studies source-perceived errors in news accounts and the reactions of reporters to the alleged errors. Locally produced, byline news items in two San Jose newspapers during a four-week period were mailed to the primary sources cited in each with a questionnaire concerned with the articles perceived accuracy. The 47 reporters who wrote the items responded by a self-administered questionnaire to source complaints of errors. Slightly more than 54% of the 496 articles were returned from both sources and reporters. The results of this analysis, based upon 246 source-perceived errors found in 47% of the articles, showed that reporters were more likely to admit errors if the information came under the source's control but less likely to admit mistakes if they were due to source dissatisfaction.

LINDAHL, RUTGER. Media concentration on local political campaigns. *Gazette*, 1983, *31*(2), 99-115.

Studies the role of local newspapers as instruments for disseminating political information and forming local opinion during the 1980 nuclear power referendum in Sweden. After the Three Mile Island accident the mass media were filled with information on nuclear power. Three communities, each having two major daily newspapers and representing different political parties, were selected for a special study of the role of local newspapers and campaign organizations. All supported two options and rejected one offered to the public as solutions to the problem. It was concluded that the newspapers presented information considered to be well adjusted to local opinions; that all contained information regarded as positive, negative, and neutral towards the three options, and that the newspaper contents during the campaign were more the result of mirroring than of molding.

ANDERSON, DOUGLAS A. Sports coverage in daily newspapers. *Journalism Quarterly*, Autumn 1983, *60*, 497-500.

Compiles information on current daily newspaper sports staffs, sports coverage, sportswriting styles, and opinions of sports editors about contemporary coverage. In the spring of 1982, 106 sports editors from newspapers in different circulation categories responded to a mail questionnaire. It was found that the amount of space devoted to sports increased with circulation. Locally written sports columns were published at least once a week by newspapers in all circulation categories. The editors agreed that sportswriting is better and that sports space has increased during the past three years. An increasing emphasis has been put on pictures and art.

McQuail, Denis, & Van Cuilenburg, Jan J. Diversity as a media policy goal: A strategy for evaluative research and a Netherlands case study. *Gazette*, 1983, *31*(3), 145-162.

Develops an evaluation instrument for determining the diversity of media as related to society and applies it to the national daily press of the Netherlands. Comparisons of content between different newspapers and between press coverage and reality were made concerning a series of debates in the Netherlands Parliament about a major social and economic plan. The official record of the debate was divided into 1,435 information units which formed the basis for the comparisons. National newspapers reported 42% of the units; individual newspapers, 10%. Degrees of reflection (how well media reflect public opinions) and openness were reported. It was concluded that the diversity concept was feasible and that evaluative research of this kind is potentially useful in policy making.

Vilanilam, J. V. Foreign policy as a dominant factor in foreign news selection and presentation. *Gazette*, 1983, *32*(2), 73-85.

Compares the foreign news selection, the themes stressed, and the influence of foreign policy as found in four newspapers each from India and the United States on three different days. The number of pages of the Indian papers varied from 12 to 16; of the United States, 48 to 76. Based upon selected criteria, foreign news was measured under various headings, the column centimeter being the unit of measurement. The Indian press carried more foreign news items, devoted a larger percentage of space, and placed more of it on the front or preferred pages than the United States. Geographic proximity was of less importance than the countries' foreign policy for the selection of the countries reported in each system. India was not top-ranking news in the United States papers, but the reverse was true. Third World news was more prominent in the Indian papers than in the United States ones.

Shoemaker, Pamela J. Bias and source attribution. *Newspaper Research Journal*, Fall 1983, *5*(1), 25-31.

Tests how journalists treat deviant political groups in attributed and unattributed phrases and assertions in their news stories. The dependent variable, media portrayal of the political group as legitimate, was composed of four dimensions: evaluation words and phrases (writer's attitude towards the group), legality assertions (kinds of activities selected), viability assertions (ability of group to achieve its goals), and stability assertions (consistency of the group). The independent variable, the deviance index, represented the extent to which journalists perceived the political groups as being different from the mainstream of U.S. political thought. The results of the regression analysis of the data revealed that the unattributed evaluation words and phrases applied to deviant political groups tended to portray the groups in a negative light while attributed information was neutral. Both attributed and unattributed information published about the deviant groups showed them to be less legal and viable than nondeviant groups.

Sohn, Ardyth B., & Sohn, Harold L. The relationship of newspaper issue agendas to the current and anticipated issue agendas of community leaders, non-leaders and newspaper staffers. *Mass Communication Review*, Winter/Spring 1982/83 *10*(1&2), 15-20.

Examines the relationships of issues considered important by a group of perceived community leaders, the community at large, and the newspaper in one small town. Interviews were conducted with 42 persons identified as leaders, 150 non-leaders, and local newspaper staff members. A content analysis of the newspaper showed what issues were published for approximately three months. The interviewing and the content analysis yielded eight community issues. The results of the Pearson Product-Moment correlation coefficients showed no relationship of the issues considered important by leaders, non-leaders, and the newspaper. Other findings were pointed out.

III-14 Magazine publication

SINGLETARY, MICHAEL W.; BOLAND, RAYMOND; IZZARD, WILLIAM; & ROSSER, TERRY. How accurate are news magazines' forecasts? *Journalism Quarterly*, Summer 1983, *60*, 342-344.

Tests the accuracy of forecasts made in the "Periscope" column in *Newsweek* and "Washington Whispers" in *U.S. News and World Report* during a six month period. Of the 582 items appearing in the two columns, 152 were defined as forecasts. Public records (newspapers, *Congressional Quarterly*, and the like) and correspondence were used to determine whether the forecasts were correct or erroneous. Of the forecasts 129 were verifiable. Of these 51% were judged to be accurate; 19%, partially accurate; 30% inaccurate. The topics were largely national and involved people rather than events or places.

SCHOENFELD, A. CLAY. The environmental movement as reflected in the American magazine. *Journalism Quarterly*, Autumn 1983, *60*, 470-475.

Enumerates publications with environmental content, especially those published between 1966 and 1975. The roots of specialized current environmental magazines were traced briefly from 1845. Between 1966 and 1975 more than 70 specialized environmental periodicals came into being with all but 10% in existence today. More than 30 English language environmental journals published abroad are circulated in the United States. Environmental terms increasingly were used to label humankind-habitat relationships. The movement penetrated established scientific and general magazines as well as state publications.

III-15 History of print and book publication

SHIFLETT, ORVIN LEE. The Government as publisher: An historical review. *Library Research*, Summer 1982, *4*, 115-135.

Reviews the literature about the history of the federal government's publishing activities, a diffuse literature scattered through a number of different disciplines. The topics included in the report were the importance of the history of government publishing, some of the published general histories, the relationship of libraries to government publications, problems in governmental publishing, printing and printers for the government. When the Government Printing Office was established as an Agency of Congress in 1860, most of the printing originated from Congress to carry on its ongoing business.

MURPHY, JAMES J. Rhetoric in the earliest years of printing, 1465-1500. *Quarterly Journal of Speech*, February 1984, *70*, 1-11.

Identifies books of the incunabular (beginning) period of printing and describes their general and specific characteristics. The estimate of about 35,000 editions to the year 1500 is the commonly held view of librarians. Identifying specific titles among this estimate is complicated by the lack of subject-indexes and lack of rhetoricians' attention to this period. The rhetorical texts prior to 1500 fall into three categories: ancient treatises, medieval works, and, the most numerous, 61 contemporaneous works composed at or near the time of printing. Altogether they encompassed fewer than 400 editions. Italy was the dominant center for the earliest printing of classical and medieval rhetorical works, while Germany and France produced the largest number of original works. All of the major ancient rhetorical texts were printed by 1485, often with ancient, medieval, or contemporary commentaries. Specific works are described in the report.

Carpenter, Kenneth E. (Ed.). *Books and Society in History*. New York and London: R.R. Bowker Company, 1983.

Compiles in one edited volume a series of papers dealing with various aspects of the history of the book. The papers cover both various time periods, from fifteenth century monastic printing shops to the operation of the twentieth century Book-of-the-Month Club, as well as book production, censorship, publication, and trade in various countries. The range of topics also varies from broad general issues and trends such as publishing as an agent of change to narrower ones such as English-language publishing in eighteenth century Germany. Approaches vary from the examination of physical structures of books to the use of demographic and other statistics. The final chapter identifies seven major areas of research into the history of books.

Meadows, A.J. (Ed.). *Development of Science Publishing in Europe*. Amsterdam: Elsevier Science Publishers, 1980.

Chronicles the growth of various aspects of science publishing in Europe. Includes chapters on journal publishing and scientific monograph publishing before 1850; on developments in Britain; on the role and reception of the scientific monograph in nineteenth century France; on science in the public press since World War II; and on European science publishing and the United States.

Frugé, August. The metamorphoses of the University of California Press. *Scholarly Publishing*, January 1984, *15*, 161-176.

Traces the steps in the transformation of the scholarly press from the German to the Oxbridge models. The German model existed for the purpose of editing and printing monographs by local scholars, especially dissertations. The Oxbridge model publishes several kinds of academic books. Its purpose is broadly scholarly, but the methods resemble those of commercial publishers. This report shows the development of the University of California press from the German model to the Oxbridge one and the problems encountered in the growth.

Dhombres, Jean G. French textbooks in the sciences 1750-1850. *History of Education*, June 1984, *13*, 153-161.

Compares the number and quality of scientific books published in France between 1750 and 1850 with emphasis placed upon mathematics books published between 1789 and 1815. During the French Revolution and the Empire publishing in general flourished. The popularity of science was well established and was much greater than either before or after these periods. Mathematical sciences were highly published and showed a steady increase. The publication of books in other scientific fields varied in numbers. Many of these books were used as textbooks.

Provenzo, Jr., Eugene F. Education and the iconography of the Republic: Patriotic symbolism in the frontispieces of eighteenth- and nineteenth-century American textbooks. *Teachers College Record*, Spring 1984, *85*, 503-512.

Examines the use of visual metaphor in the frontispieces of spelling and reading books published in the United States during the late eighteenth and early nineteenth centuries. It was argued that through the combination of traditional visual symbols and the ideals of the new American government there slowly developed a distinctive patriotic iconography. The content of the frontispieces examined, mainly in spelling books, included portraits of important people and mythological characters.

Barbour, Michael. The use of maps: The topographic and thematic traditions contrasted. *Cartographic Journal*, December 1983, *20*, 76-86.

Reviews geographical writings to show that topographical and special maps of various kinds have been used in articles or books since at least the seventeenth century. The review began with the works of Ptolomaeus (A.D. 90-168) and ended with comparisons of the early writers with those of this century. The number of maps has substantially increased between 1500 and 1920 with a shift from simple outlines of land and sea to more sophisticated representations of statistics and other distributions, often specially drawn. One of the ancient practices, recently revived, was the printing of maps side by side to illustrate changes or similarities of specific aspects. Fewer topographical maps are included in textbooks today than formerly.

III-16 Book publication

Zebrowski, Jr., Ernest. College science textbook publication: A look at the sociological mechanism. *Science Education*, July 1983, *67*, 443-453.

Reviews research concerning textbook publication and examines the sociological mechanism of this type of publication to five audiences: publishers, instructors, students, peers and colleagues, and oneself. The writer traces the publication of science textbooks from the precontractual stage until the final publication. Although the application of ideas is to science textbooks, it appears that the steps discussed could relate to most textbook publication. Distinctions between the publishing organization and the college or university with which most textbook writers are associated are delineated.

Luke, Carmen; DeCastell, Suzanne; & Luke, Allan. Beyond criticism: The authority of the school text. *Curriculum Inquiry*, Summer 1983, *13*, 111-127.

Critically examines Olson's views of the school textbook, focusing upon the distinctive communicational constraints of both the school text and the classroom context. To accomplish this an examination was made of the textbook's mode of discourse, the techniques of text construction, its material quality, and the institutional practices which circumscribe it. With a review of research and expert opinion, the writers found that Olson's analysis of text authority as residing primarily in the intrinsic features of a text does not fully account for the authority of textbooks in schools. The curriculum (form, content validity, authority) is not "in the text."

Wise, Paula Sachs. The misrepresentation of school psychology in introduction to psychology textbooks. *Teaching of Psychology*, October 1981, *8*, 170-171.

Surveys 84 college level introductory psychology textbooks published between 1958 and 1979 to determine what their approach was to the topic of school psychology. From each of the 26 textbooks including brief descriptions of school psychology, relevant selections were copied and judged by 12 judges as to which of 25 skill variables listed in a research article were included. The judges agreed upon only three of the 650 instances. Eleven of the 12 judges agreed on the absence of a skill variable 288 times. The judges were nine newly enrolled school psychology students and three friends of the writer from miscellaneous occupations.

GERMANO, WILLIAM P. Helping the local faculty with publication support. *Scholarly Publishing*, October 1983, *15*, 11-16.

Surveys 200 heads of university English and romance language departments to determine how academic publishing was funded. The results based upon 70 completed questionnaires showed that more than half of the universities provided subsidies supporting publication by the faculty. Of these, approximately half indicated there were special programs for special purposes. Almost one-fourth of the subjects with on-campus presses reported that subsidies were granted to their presses only. Quality is the only definite criterion for the selection of a project to be subsidized. A diverse number of institutions (more than scholars recognize) subsidize faculty publications.

MINOWA, SHIGEO. University presses in Japan. *Scholarly Publishing*, April 1984, *15*, 259-263.

Analyzes the productivity of Japanese publishers during 1979 and classifies the 27,000 new titles as scholarly or non-scholarly. The scholarly books were then assigned into one of five sub-categories. Approximately half of the latter titles were scholarly in the broad sense; of these about 8% were scholarly in the narrow sense. The great majority of the scholarly books were university textbooks, nonfiction on academic topics, and other secondary works. Primary scholarly publications comprised 4% of the new titles. The 1,187 primary publications emanated from 357 publishers, most of them being commercial and specializing in a certain subject or discipline. The 14 university presses are not unified in their functions. Three historical models of scholarly publishing were described, none being suitable for university press publication.

III-17 Publication and history of juvenile books

SOMMERVILLE, C. JOHN. Breaking the icon: The first real children in English books. *History of Education Quarterly*, Spring 1981, *21*, 51-75.

Analyzes how children are depicted in early English literature. Beginning with *The Golden Legend*, a thirteenth century standard version of saints' lives, Sommerville traced the slowly changing interpretation of childhood through the early 1700s. In the earliest books reviewed the children were presented as saintly and prematurely old. During the seventeenth century writers noticed that the images of children in books did not do justice to the variety of children in real life and began presenting childhood as more real and important than had been done previously. Numerous examples of the interpretations of children in books are analyzed at length in the report.

TAXEL, JOEL. The American Revolution in children's fiction: An analysis of historical meaning and narrative structure. *Curriculum Inquiry*, Spring 1984, *14*, 7-55.

Analyzes the narrative structure of 32 children's novels about the Revolutionary War to determine if common approaches to characterization and plot development were used by the different authors and relates the contents to the structure of these novels. Characters were coded by a series of binary oppositions. The analysis of content reconstructed the historiographic conception of the Revolution used by each author to frame the narrative. The analysis revealed that the books presented a selective, simplistic, and conservative view of the Revolution and ignored the complexities found in most historical explanations of the events. The action of almost every novel resulted in the growth of youthful protagonists into stronger, more independent characters in the books written in Periods I (1899-1930) and II (1937-1953). The central concern of the novels was the way the hero or heroine becomes involved with the Revolution. The novels in these periods emphasized the role played by ideas and ideology in generating opposition to British rule. In Periods III (1959-1961) and IV (1967-1976), there was less overblown rhetoric that characterized the first two periods. The differences in the novels written in the different periods have more to do with changes in tone, emphasis and coding of the oppositions than with the vision of the Revolution. Almost all of the heroes/heroines were from the middle class. In Period IV a preoccupation with personalized, introspective accounts of the Revolution were noted. Other findings and examples of the characteristics of these books are included in the report.

Kearney, Anthony. The missionary hero in children's literature. *Children's Literature in Education*, Summer 1983, *14*, 104-112.

Reviews the characteristics of English children's literature in which missionaries were popular figures. For a period of approximately 80 years, from 1860 to World War II, missionaries appeared in fiction, biographies, and true-life adventure literature. They combined religious messages and exciting action and often included British virtues. Most appealed to boys more than girls, were concerned with men of humble backgrounds, helped to convey particular beliefs and ideologies in young readers, and helped to project secular attitudes of the times. In most missionary books the stereotype existed: the world beyond missionary influence existed in barbarism, depravity, and heathen ignorance. Heavy stress was placed on the successes, courage, and strength of missionaries; little was said about their mistakes and failures.

Scott, Dorothea Hayward. *Chinese Popular Literature and the Child.* Chicago: American Library Association, 1980.

Presents a historical and critical survey of oral and written Chinese literature for children. Such literature in written form did not exist in China in any appreciable manner until almost the beginning of this century. Prior to the late nineteenth century, children's tales were learned through storytellers and stage presentations such as puppet plays. The introduction of Buddhism in the second century A.D. was a major influence on the growth and development of a folk literature based on the supernatural, magic happenings, and animal fables. Both Buddhists and Taoists used storytelling for religious purposes. Topics covered in the book include myths, legends, symbolism, the classics, theater, folk epics, novels and story collections, folklore, nursery rhymes, riddles, and proverbs. Cited are the works of a number of leading early and colloquial writers. Children's literature since the cultural revolution is not treated; rather the book traces the traditions which have shaped the literature and education of Chinese children up to that time.

Jónasdottir, Erla K. Book production and library services to children in Iceland. *Scandinavian Public Library Quarterly*, 1983, *16*(3), 74-77.

Reports upon availability of books and library services for Icelandic children. Before 1930 the Icelandic books contained short stories, memoirs, and fairy tales; but later novels for children became more numerous. During the last two decades children's literature has been recognized as serious literature. Since the Icelandic language is spoken by only 235,000 people, book publishing, especially for children, is difficult. Books written by Icelandic authors are in the minority. Republications are frequent, and the great majority of children's books published are translations. Non-fiction books are lacking in both quantity and quality. A 1979 survey showed that 92.3% of children ages 0 - 6 and 100% of children 7 - 15 own books. Although there have been public libraries in Iceland since 1770, the first children's room was established in 1912. In 1977 the number of children using the 27 central libraries was from one-fourth to three-fourths of the total number of borrowers; the ratio of children's books varied from one-eighth to one-third of the total collection.

III-18 Censorship and freedom of the press

SEREBNICK, JUDITH. A review of research related to censorship in libraries. *Library Research*, Summer 1979, *1*, 95-118.

Reviews research concerning different forms of censorship in libraries. Six quantitative studies which identified key variables related to library censorship are analyzed. Quantitative surveys of library holdings of potentially controversial books, quantitative and descriptive surveys and reports of actual censorship, and studies outside the field of librarianship related to book selection and censorship provided data about censorship in libraries. Similarities among the studies included assumptions made by researchers, methodology used, and conclusions reached.

WOODS, L.B., & LANDY, LEE A. They shoot books, don't they. *Indiana Media Journal*, Summer 1983, *5*(4), 2-6.

Studies 18 reported cases of censorship in Indiana during 1976-1980 from the standpoint of sources of and reasons for censorship attempts, frequency, institutions affected, specific materials under attack, and the disposition of these cases. The cases, fairly evenly distributed throughout the period, were reported in clusters around certain geographic areas. The chief instigators of censorship attempts were school boards, principals, and parents who gave a variety of reasons for their concern. Public libraries were the institutions most affected by censorship. The largest category of censored materials was books. Censorship attacks were successful or partially successful in removing materials from schools or prohibiting their use in the majority of cases. Comparisons were made with a 1966-1975 study.

KRISTOF, NICHOLAS G. *Freedom of the High School Press*. Latham, MD: University Press of America, Inc., 1983.

Presents the findings of a study of censorship in secondary schools. Questionnaires were mailed to student editors at 500 randomly selected high schools throughout the United States. Findings are based on a 75% response rate. Each state is represented by at least one school. Degree of censorship was determined by an index based on the results of six questions with a possible range from 0 to 11 points. Slightly under 6% of schools had the minimum, indicating no censorship and almost no potential for censorship; 1.7% had the maximum, indicating very heavy censorship. A number of editors who reported no incidents of censorship also indicated that they would be censored if they wrote on a controversial topic. More than 80% of editors reported some censorship or potential for it. School size was inversely related to censorship, although the coefficient obtained was small (-.22). Editors appeared to be aware of at least some of their First Amendment rights. At over half the schools, the advisor alone selected the editor. The administration in particular appeared to cultivate a climate of censorship or fear thereof.

PASTERNACK, STEVE. Editors and the risk of libel in letters. *Journalism Quarterly*, Summer 1983, *60*, 311-315.

Examines the practices and perceptions of 72 editorial page editors concerning libel laws and letters to the editor. Each editor responded to a three-page questionnaire which emphasized the manner that newspapers deal with potentially libelous letters to the editor and their perception of the dangers of libel in relation to these letters. Most of the dailies (88.2%) reported they had not been sued on the basis of letters to the editor, but 11.8% had been. One of every eight letters is discarded because of possibly libelous content. If libelous content is included, 91% said they tried to edit this material out of the letter. Only 25.7% stated that they thought the risk for a law suit is higher for the letters section than it would be for anywhere else in the newspaper. A majority of these editors was not aware that in a libel suit courts will treat a letter no differently than they would any other published materials.

III-19 Reaction to printed materials

Hartman, John K. How 21-34 year olds perceive competing newspapers in a small-to-medium sized market. *Newspaper Research Journal*, Fall 1983, *5*(1), 91-100.

Questions through telephone interviews 161 adults, ages 21 to 34, concerning how they felt about two competing local newspapers and about newspapers in general. The subjects answered 10 questions requiring them to compare the two newspapers through the use of value words and made suggestions for content changes in newspapers. Although they were comfortable with traditional newspaper content, there was no strong evidence that a daily newspaper was vital to their lives. They expect newspapers to include subject matter that interests them such as entertaining, stimulating things to do; nature-oriented information, information about other people, services of local communities, and information which helps them to understand the world about them.

Hale, F. Dennis. Unnamed news sources: Their impact on the perceptions of stories. *Newspaper Research Journal*, Winter 1983, *5*(2), 49-56.

Questions whether newspaper readers notice the presence or absence of attribution, and whether the kind of attribution influences their evaluation of the news story. Fifty journalism majors interviewed 444 college subjects who evaluated a factual news story and an opinionated one. One-third of the subjects read each story having no attribution; one-third, general attribution (unnamed source consisting of a title without a name); one-third, specific attribution (named source consisting of a title with a full name). Both news stories were evaluated with two closed-ended and one open-ended questions concerning the believability and accuracy of the stories. The results were analyzed by the T-test and Pearson correlation coefficient. The factual story was perceived as significantly more believable and accurate than the opinionated one, but type of attribution made no difference for perceptions of the factual story or for the believability or awareness of the opinionated story.

Butler, Jacalyn Klein, & Kent, Kurt E.M. Potential impact of videotext on newspapers. *Newspaper Research Journal*, Fall 1983, *5*(1), 3-12.

Conducts a telephone survey of 388 adults, including college students, to determine their attitudes towards teletext and videotext. The central question of the study concerned whether or not the subjects would stop buying a newspaper if they could get the contents of a newspaper on a TV screen. Analysis was made of data from the total sample and separately for students and the general public. Different Ns were used for the analysis of different questions. Nearly a third (66%) reported they might give up newspapers if they could receive the same content on a TV screen. Age was negatively and significantly related to stopping the newspaper with both the total and the general public samples but not with students. Formal education was negatively related and sex and income were unrelated to stopping the newspaper. Other relationships were reported.

SALMON, CHARLES T., & LEE, JUNG-SOOK. Perceptions of newspaper fairness: A structural approach. *Journalism Quarterly*, Winter 1983, *60*, 663-670.

Compares trust in newspapers in two communities that differ in size and structural pluralism, including media outlets. In interviews conducted within two weeks, 196 subjects listed newspapers they read and stated whether they considered their local newspapers to be more or less fair than newspapers in general in covering the news and in covering three specific issues. The subjects in both communities perceived their local papers to be more fair, overall, than newspapers in general, but the difference was significant for the larger community only. The finding was especially strong for residents of a community who read only their community's paper. Residents of the smaller community perceived their local newspaper to be fair regardless of the issue being reported. In the larger city the subjects considered their local paper to be less fair than other newspapers in covering one of the specific issues but more fair for the other two issues.

SMITH, KIM A. Community perceptions of media impressions. *Journalism Quarterly*, Spring 1984, *61*, 164-168.

Gathers data in a quota sample of 455 adults in Louisville, Kentucky, stratified by age, race, sex and eight geographically distinct areas to determine their reaction to print and electronic media. The survey instrument was administered in the subjects' homes by trained, professional interviewers. These subjects perceived the local media to be supportive of the local community, this consensus holding among different racial and income groupings. Citizens rating the quality of life in Louisville most highly were significantly more likely to feel that the media conveyed a positive image of the community than those less satisfied with the community.

III-20 Effects of reading

SCHMITT, JOHN P., & SAUNDERS, STEWART. An assessment of *Choice* as a tool for selection. *College & Research Libraries*, September 1983, *44*, 375-380.

Examines the relationship between the strength of the reviews from *Choice* and the circulation in a university library of titles reviewed. The investigators drew a sample of reviews, ranked the reviews according to the reviewer's opinion of the book, determined the frequency of circulation of each title reviewed, and correlated the frequency with the strength of the review. Of the 310 titles selected, 30.3% did not circulate at all; 36.8% circulated one to two times, while 33% circulated three or more times. A disproportionate number of reviews fell in the highest two rankings. These were circulated more frequently than those rated for specialized groups.

SMITH, RON F., & VOELZ, PETER. Newspaper stylistic codes: A hindrance to understanding? *Journalism Quarterly*, Winter 1983, *60*, 641-646.

Tests the understanding 383 young adults have of seven traditional newspaper stylistic codes. Two versions of a fictionalized news story were prepared, one following the style rules of the Associated and United Presses and the other using easier stylistic devices. The subjects answered a 10-question comprehension quiz and questions concerning their newspaper readership and age. It was found that many adults, ages 18 to 34, had difficulty understanding traditional stylistic devices and that five of the simpler devices were significantly better understood. Frequent readers did not understand the stylistic codes better than infrequent readers. Making changes in the codes did not enhance the comprehension of less frequent readers.

BOSTIAN, LLOYD R. How active, passive and nominal styles affect readability of science writing. *Journalism Quarterly*, Winter 1983, *60*, 635-640, 670.

Studies the effects of nominal, active, and passive styles upon comprehension, reading speed, perceived interest, and perceived ease of reading. Six versions (three styles x two topics) of the reading selections were distributed randomly among 266 university students who answered questions on a selection, and rated it for familiarity, interest, and ease of reading. They were timed on their reading but allowed to finish. Active passages were read significantly faster than passive and nominal styles for both topics and were rated higher for reader interest. No significant differences were found for comprehension of and ratings of reading ease for the three styles. Nominal style was considered to be a poor choice for effective communication.

RYAN, MICHAEL, & MARTINSON, DAVID L. Ethical values, the flow of journalistic information and public relations persons. *Journalism Quarterly*, Spring 1984, *61*, 27-34.

Questions how public relations practitioners should react to two hypothetical public relations dilemmas posed in vignettes, and if their responses will differ according to types of institutions involved (public, private) and types of issues involved (firing of an athletic coach, problems of nuclear waste disposal). The 165 subjects were randomly assigned to one of four groups each reading a three-part questionnaire, which differed only in the vignettes outlining a dilemma in public relations. The subjects indicated on a modified Likert scale the extent to which they agreed or disagreed with seven statements and their suggestions concerning what a public relations director should do in each situation. It was concluded that practitioners respond in different ways to different moral-ethical dilemmas and that they are accountable in some instances to an authority higher than management. The responses did not vary significantly according to the nature of the organization involved.

EINSIEDEL, EDNA F.; SALOMONE, KANDICE L.; & SCHNEIDER, FREDERICK P. Crime: Effects of media exposure and personal experience on issue salience. *Journalism Quarterly*, Spring 1984, *61*, 131-136.

Questions whether an individual's perception of crime is shaped by his her exposure to that issue from media exposure and or personal experience. The 488 adult subjects were surveyed on a number of topics including crime and general media use. Frequency of crime news was measured relative to the overall newshole in both morning and afternoon daily newspapers. A sample of six constructed weeks was content analyzed; stories dealing with crime, were measured on the dimensions of frequency, geographic location of the crime, and type of crime. Official crime statistics were obtained. Individuals exposed to a greater amount of crime news were more likely to show concern with being a crime victim. Greater exposure to crime news was strongly related to increased salience of crime as an issue and was a better predictor of salience than was personal experience with crime.

Haskins, Jack B., & Miller, M. Mark. The effects of bad news and good news on a newspaper's image. *Journalism Quarterly*, Spring 1984, *61*, 3-13, 65.

Determines whether the relative amount of bad news and good news in a newspaper has corresponding effects on the perceived image of the newspaper. The 220 college student subjects were divided into five sub-samples. Each group read one of five versions of a prepared newspaper, the contents ranging from very bad to very good news. The newspapers were alike except for the presentation of the news. The subjects responded to demographic questions, a general interest in news scale, an importance of religion scale, a personality questionnaire, and the Newspaper Image Questionnaire based on 16 variables. The bad-good news had highly significant corresponding effects on 15 of the 16 newspaper image characteristics. Demographic and personality characteristics of the college subjects, general news interest, and importance of religion did not interact significantly with any of the bad-good news treatments on any of the image-dependent variables.

Niemi, Richard G.; Iusi, Grace; & Bianco, William. Pre-election polls and turnout. *Journalism Quarterly*, Autumn 1983, *60*, 530-533.

Surveys non-voters in 21 New York election districts to determine whether their turnout decisions were affected by the publication of poll results. A stratified random sample was drawn, yielding 520 names. Of these, 244 were interviewed. In an additional 100 cases, a probable reason for non-voting was determined. The contact rate was between 66% and 71%. In response to an open-ended question, no subject mentioned public opinion polls as a reason for not voting. Forty percent had not heard or read anything about them. Of those who had heard or read anything about the polls, 65% could recall little or nothing about what actually was reported. Those who recalled the polls stated they were not influenced by them.

III-21 Research techniques

Brunk, Gregory G., & Fishkin, James Andrew. Media coverage of presidential candidates. A study of popularity prior to the 1976 national nominating conventions. *Communication Research*, October 1982, 9, 525-538.

Develops a model to show the relationship of the amount of media coverage of presidential candidates and changes in their popularity. Popularity polls for the 1976 election and media coverage of candidates in four major regional newspapers were used to form the model. To understand the relationships between changes in media coverage and candidate popularity, the investigators estimated the interaction between the two variables using prewhitened cross-correlations. The use of the model showed that a candidate's relative level of media attention is often a significant predictor of his popularity over time.

Graff, Harvey J. Literacy in literature and in life: An early twentieth-century example. *History of Education Quarterly*, Fall 1983, *23*, 279-296.

Presents a case study of an early twentieth-century novel, *The Ragged Trousered Philanthropists*, to show how fiction can be used in historical research. The book depicts the place of literacy and education, among other factors, in English working-class life as well as attitudes of the working class toward literacy and education. The investigator showed that literary evidence, despite the difficulties involved, provides human perspectives and nuances that quantitative data have not supplied. Although literature must be used cautiously, it is a different kind of source which can aid an experienced student of any topic or period. The uses of literature in historical study are many and varied.

Bookstein, Abraham. Sources of error in library questionnaires. *Library Research*, Spring 1982, *4*, 85-94.

Examines how people differ in their understanding of questions that appear in library-user surveys and how they interpret quantitative adverbs. A two-part questionnaire was prepared. The first part investigated how subjects interpret the word *use* in descriptions of situations that occur in a library or in types of contact with reading materials. Situations were described in the second part, and the subjects indicated the appropriate adverb, such as *seldom* or *often*. Two forms of the questionnaire having slightly different wording for several questions were administered to determine if the choice of words might influence the readers. Although the 43 college subjects were a somewhat homogeneous group, they differed considerably on what situations were examples of library use. There was also variability in the use of quantitative adverbs depending upon the subjects' meanings of the terms and the context in whch they are used.

IV. *Physiology and psychology of reading*

IV-1 Physiology of reading

Drotter, Molly Wilson. Physical and psychological decrements affecting reading among the aged. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 245-248.

Synthesizes some of the available gerontological research on visual, perceptual, and cognitive changes affecting the ability to read. As part of the aging process, both visual and perceptual changes occur. Physical changes affecting reading include presbyopia, additional time needed for dark-light adaptation, and a higher threshold for illumination. Perceptual changes occurring involve a slowing of the central nervous system, thereby causing 1) data to travel more slowly to the brain and 2) an increase in the time needed to integrate information. Additionally, both the amount of neural noise and the length of after effects increase. Research findings also indicate that there is an increased inability to integrate material and form a set for comprehension as well as an increased rigidity. Procedures for overcoming these difficulties include corrective lenses and surgery and specially designed reading materials. The factors of motivation and experience as necessary in overcoming cognitive and perceptual deficits are noted.

Ramig, Lorraine A. Effects of physiological aging on speaking and reading rates. *Journal of Communication Disorders*, May 1983, *16*, 217-226.

Relates that reading and speaking rates were studied in 48 male subjects representing two levels of physiological condition (good and poor) within each of three chronological age groupings (25-35, 45-55, and 65-75 years). Data on reading and speaking rate in syllables per second, with and without intersentence pause time were collected. High quality speech recordings were made while each subject read, and produced 30 seconds of spontaneous speech in response to a picture stimulus. For reliability purposes, one-fourth of the subjects repeated these tasks. Results indicated reading and speaking rates were significantly slower in old age subjects (65-75 years) than they were in young age subjects (25-35 years). These age-related differences were most apparent in subjects in poor physiological condition. Findings lend further support to the hypothesis that physiological condition is a significant variable to consider in the analysis of speech characteristics.

Katz, Milton; Ciuffreda, Kenneth J.; & Viglucci, Chris J. Reading performance and eye-movements through Varilux 2 and ST-25 lenses. *American Journal of Optometry and Physiological Optics*, March 1984, *62*, 196-200.

Compares reading rate, reading comprehension, and eye movements while reading through the Varilux 2 lenses and a commonly prescribed ST-25 bifocal. The seven subjects ranged in age from 25 to 60. Rate and comprehension were assessed by the *Nelson-Denny Reading Test* while eye movements were monitored using a photoelectric technique. Tests were performed at both near and intermediate distances and within 30 minutes of and one month following the dispensing of the eyeglasses. There were no significant differences for reading rate or comprehension with either lens type. No significant differences with lens type were found for number of fixations per 100 words, number of words per fixation, or numbers of forward saccades and regressions for 100 words.

Mecacci, Luciano; Sechi, Enzo; & Levi, Gabriel. Abnormalities of visual evoked potentials by checkerboards in children with specific reading disability. *Brain and Cognition*, April 1983, *2*, 135-143.

Records visual evoked potentials (EP) in the two hemispheres for six checkerboards of varying check sizes in 16 reading disabled (D) boys and 8 controls (C). Boys were matched for chronological age (7 to 11 years) and IQ. D boys tended to show a gross hemisphere asymmetry, but in the C group EP symmetry was observed. Results gave evidence of a dysfunction in basic visual processing.

Kutas, Marta, & Hillyard, Steven A. Event-related brain potential to grammatical errors and semantic anomalies. *Memory and Cognition*, September 1983, *11*, 539-550.

Asks 17 young adults to read several prose passages silently one word at a time and records event-related brain potentials (ERPs). There were 365 sentences in all; 164 were semantically congruous and grammatically correct, and the remaining sentences contained one semantic or grammatical deviation in various positions within the sentences. All words were classified as belonging to either a closed-class (function) or open-class (content) word category. Subjects answered 7 or 8 multiple-choice questions covering the five passages. Semantically anomalous words elicited an additional negative wave between 300 and 600 msec poststimulus (N400), whereas grammatical errors were associated with smaller and less consistent components that had scalp distributions different from that of the N400. Results suggested that grammatical aberrations are processed in a different manner than are semantic deviations. Further analyses indicated that different ERP configurations were elicited by content and function words.

Kutas, Marta, & Hillyard, Steven A. The lateral distribution of event-related potentials during sentence processing. *Neuropsychologia*, 1982, *20*(5), 579-590.

Records event-related brain potentials (ERPs) from 14 adults, ages 18-24, as they read 160 different sentences, half of which ended with a semantically anomalous word. Subjects were tested in one session lasting about three hours. They were told that they would be presented with a series of simple sentences, one word at a time. Half of the presented sentences were completed by semantically appropriate words; half, by inappropriate words. A recognition test followed the reading of all sentences. Subjects were asked to rate each of the last words as to their unexpectedness on a seven-point scale. ERPs to semantically congruent words were associated with a sustained late positivity in the 300-900 msec range. ERPs to incongruous words included an additional negative-going wave between 300 and 600 msec (N400). The N400 was slightly larger and more prolonged over the right than the left hemisphere and diminished in amplitude over the course of the experiment. No significant sex differences were noted in ERP laterality.

Aitsebaomo, P. Apeameokhai, & Afanador, J. Arthur. Contribution of eye and head movement for a near task. *American Journal of Optometry & Physiological Optics*, November 1982, *59*, 863-869.

Examines the relation of eye and head movements for a near task. No data except number (n = 6) were given on subjects. Results suggested that both eye and head movements are used for changes in gaze at near within the ± 14° zone when viewing points of lights or letters. Nearly all subjects made small horizontal head movements. The proportion of eye movements increased with task difficulty. The dead zone for head movement was estimated to be about ± 6° for points of light and 11° for letters. The authors suggest that possibly slow readers have a small dead zone for head movements or move their heads while reading whereas fast readers principally use eye movements while reading.

Pennington, Bruce F.; Bender, Bruce; Puck, Mary; Salbenblatt, James; & Robinson, Arthur. Learning disabilities in children with sex chromosome anomalies. *Child Development*, October 1982, *53*, 1182-1192.

Studies whether learning disabilities can have a genetic basis. Subjects were 44 children, ages 7 to 16, who were identified at birth as having sex chromosome anomalies (SCA) and 17 chromosomally normal siblings who served as controls. Children were followed from birth and given regular physical and psychological evaluations. Psychometric data included the WPPSI and the *Peabody Individual Achievement Test* (PIAT), the latter administered at 7-12 years of age. Findings indicated that SCA children were at increased risk for encountering learning problems and receiving special education intervention. Additionally, the nature of the learning disabilities may be karyotype specific.

Pennington, Bruce F., & Smith, Shelley, D. Genetic influences on learning disabilities and speech and language disorders. *Child Development*, April 1983, *54*, 369-387.

Reviews the literature relative to genetically influenced learning disabilities (LDs) and speech and language disorders (SLDs). The studies are presented under two major headings: a) studies of LDs and SLDs that appear familial, and b) studies of populations with documented genetic alterations. Included in the first classification are familial dyslexia, stuttering, and other speech and language disorders. Under the second heading are sex-chromosome anomalies, treated PKU, and autosomal anomalies. Relative to dyslexia, the authors conclude that some forms are transmitted genetically and that there are likely to be several forms of familial dyslexia involving different modes of transmission. Although there are sex differences in expression of dyslexia, it does not appear to be a sex-linked disorder. There are different dyslexia phenotypes, developmental changes within a phenotype, and phenotypic variability across family members of similar age. As yet, little is known about the developmental precursors of familial dyslexia in early childhood.

Benson, D. Frank. Alexia and the neuroanatomical basis of reading. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading*. New York: Academic Press, 1981, 69-92.

Reviews research in the study of acquired loss of written language comprehension (alexia). Three major and clinically separable syndromes of alexia are outlined: posterior, central, and anterior. They are each related to their consistent anatomical features, and a hypothesis of the neuroanatomical structures active in reading is proposed.

Bradley, Dianne C., & Garrett, Merrill F. Hemisphere differences in the recognition of closed and open class words. *Neuropsychologia*, 1983, *21*(2), 155-159.

Investigates the contributions of left- and right-hemispheres to the recognition of closed class and open class words. Subjects were 20 university students, all familial dextrals.

Materials consisted of 32 open class words (e.g., fact, time, world) and 32 closed class words (e.g., such, when, could). Words in the sets were matched on length, frequency of occurrence, and speed of recognition based on a previously presented lexical decision task. Words were presented tachistoscopically twice to each subject, once in each visual field. Words presented to the left visual field were identified less often (42.9%) than those presented to the right visual field (59.1%). The difference was significant. Open class words tended to be reported more accurately (55.1%) than closed class words (46.9%). Recognition accuracies for open and closed class words differed only when the presentation was to the right visual field.

Swanson, H. Lee, & Mullen, Robert C. Hemispheric specialization in learning disabled readers' recall as a function of age and level of processing. *Journal of Experimental Child Psychology*, June 1983, *35*, 457-477.

Plans a study to test the structural and strategic deficiency hypotheses in explaining recall differences between disabled and normal readers. Subjects were 24 learning disabled (LD) and 24 nondisabled boys separated into two age groups and matched for IQ and CA. Mean CAs for the nondisabled readers were 8.55 and 11.63; for LDs, 8.75 and 12.2. All subjects received word lists in three presentation modes (dichotic-both ears, dichotic-left ear, dichotic-right ear) and three levels of word processing (semantic, phonemic, and unrelated word lists). Word lists consisted of 12 monosyllabic words which were semantically organized, phonemically organized, or categorically unrelated. Following each word list presentation, the boys were required to free recall words. Recall increases were a function of age, group, and level of word processing. Semantically organized words were recalled better than phonemically organized or unrelated words. Age and group recall differences were an interaction of both mode of presentation and level of processing. Recall differences between groups were attributed by the authors to word knowledge rather than recall organization within cerebral hemispheres or differences in hemispheric capacity.

Hatta, Takeshi. Level of processing effects on hemispheric asymmetries with Kana (Japanese phonetic symbols) words. *International Journal of Psychology*, August 1983, *18*, 285-296.

Examines the role of levels and types of higher-order processing to determine if different hemispheric specialization is involved. Two experiments, each employing 12 Japanese undergraduate students as subjects, are presented. In Experiment 1, pairs of two-letter Kana words were used as stimuli in two different tasks, one designated as the Low Level Task (LLT) and the other as the High Level Task (HLT). Stimuli were presented in either the left or the right visual field and subjects were to judge whether or not the paired Kana words had the same name. The HLT task employed two spatial operations (normalization and physical comparison), while the LLT task required only a physical comparison. Half the subjects were to press the response button with their left hand; half with their right. Within each response group, the required finger to use in responding was varied. Reaction times to HLT were significantly longer than those to LLT. No visual field difference was noted. Experiment 2 involved two different name identity matchings with Katakana and Hirakana. One task required one spatial and one linguistic operation only. There was a significant right visual field advantage found in the linguistic operation task. The two operation task yielded longer reaction times.

Miller, Leon K. Hemifield independence in the left handed. *Brain and Language*, September 1983, *20*, 33-43.

Explores hemifield differences in word recognition between left- and right-handed subjects. Participants in the study were 16 right-handed and 44 left-handed undergraduates. Handedness was assessed by self report and by the short form of the *Edinburgh Handedness*

Inventory. Four types of one-word and two-word arrays were displayed in four locations (upper/lower, left/right). Greater hemifield independence in word recognition was found for left-handed individuals. Within the left-handed group, there were differences associated with the presence of left-handedness in the family and with writing posture.

Delis, Dean, C.; Wapner, Wendy; Gardner, Howard; & Moses, Jr., James A. The contribution of the right hemisphere to the organization of paragraphs. *Cortex*, April 1983, *19*, 43-50.

Seeks to test whether patients with right-hemisphere damage have difficulty organizing complex linguistic material. The patients with unilateral right-hemisphere damage (RHD) and 10 neurologically intact control subjects were employed in the study. Mean age of both groups was approximately 60. Test stimuli consisted of 12 paragraphs, each prepared in a nonredundant and a redundant version. Four were constructed to convey spatial information; four, primarily temporal events; and four, primarily categorical components. Subjects saw the first sentence which expressed the general theme of the paragraph. Five randomly ordered sentences of the paragraph then followed and subjects were to arrange them in the appropriate order according to the paragraph theme. Mean percentages of paragraphs arranged correctly were 82.5 for controls and 49.82 for RHDs. For controls, no significant differences were noted between paragraph types; for the RHD group, temporal paragraphs were arranged signficantly more accurately than the spatial and categorical paragraphs, and spatial paragraphs were arranged more accurately than categorical ones. No difference was noted between performance on redundant and nonredundant paragraphs.

Hart, Leslie A. Programs, patterns and downshifting in learning to read. *The Reading Teacher*, October 1983, *37*, 5-11.

Reviews recent brain research on programs, a sequence of steps to attain a goal; patterns, the extracting of meaning from confusion; and downshifting, the shutting down of part of the brain and the switching to other areas of the brain; and makes suggestions about the implications of brain research for beginning reading instruction. Much of the knowledge gleaned from cognitive psychology contradicts common teaching practices and beliefs.

IV-2 Sex differences

Downing, John. Cultural expectations and sex differences in reading. In John R. Edwards (Ed.) *The Social Psychology of Reading*. Volume I. Silver Springs, Maryland: Institute of Modern Languages, Inc., 1981, 1-27.

Reviews and summarizes the research literature on sex differences in reading. The research is reviewed under a number of different headings such as Genetic Theories, Cultural Theories, Content of Basal Readers, Sex of Teacher, Reading Disability, and Cultural Expectations. The author concludes that while the patterns of sex differences vary among different cultures, the theory that sex-role standards for reading are derived from cultural expectations is strongly supported by the research literature. The caveat is made that the causes are very likely to be complex and interactive.

Levine, Daniel U., & Ornstein, Allan C. Sex differences in ability and achievement. *Journal of Research and Development in Education*, Winter 1983, *16*(2), 66-72.

Reviews the literature on sex differences in ability and achievement. Studies are categorized under the following headings: U.S. Differences in Achievement, Differences in Ability, and Differences in Attainment in Higher Education. The authors conclude that women in the United States have made great gains, and that differences in mathematics and science achievement are narrowing between men and women. Biological differences may be contributing to different performances, but the processes are not well understood. Debate over the extent to which differences in socialization and experience account for differential attainment still continues. Factors influencing females' occupational status and low earnings are complex. Schools need to do more to provide instruction that takes into account both male and female disadvantages in ability and behavior.

Shangi, Lennard M. Racial stratification, sex, and mental ability. A comparison of five groups in Trinidad. *Journal of Black Studies*, September 1983, *14*, 69-82.

Investigates the effects of racial stratification on mental ability and scholastic performance in Trinidad. Two samples of students in grades seven, eight, and nine were randomly selected. The first sample consisted of 447 students from high-ranking secondary schools; the second sample was comprised of 998 students from urban, rural, and semirural schools. Subjects were drawn from five racial groups: 1) Blacks, 2) East Indian, 3) White, 4) Chinese, and 5) racially mixed. The *Otis-Lennon Test of Mental Ability*, the *Raven's Standard Progressive Matrices*, and the *Metropolitan Achievement Test*, Reading Comprehension, were administered to all subjects. Analysis of variance found no significant differences among racial groups on any of the three measures. However, highly significant sex differences favoring females were found for the intelligence and reading measures.

Smith, Myra Okazaki. Sex differences in the perceptual and cognitive skills essential to reading acquisition. In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia*. Towson, Md.: The Orton Dyslexia Society, 1981, 119-127.

Raises the question as to whether the difference in incidence of reading problems reflects an exaggeration of difference in perceptual skills or processing strategies that are employed by normal male and female readers. Examines relevant research and literature on the following sex differences in perceptual skills believed essential to learning to read: 1) figure-ground organization, 2) pattern recognition, 3) visual analysis of complex patterns into functional units, and 4) the use of visual context in the decoding of units. It was concluded that perceptual and cognitive differences between boys and girls originate in differences in the maturation rates of the left hemisphere. The slower maturation of the left hemisphere in boys may result in their relying upon right hemisphere modes of knowing, which consist of active exploration of space and manipulation of objects.

Machann, Clinton, & Massey, Joseph G. Male and female responses to poetry: Using discriminant analysis to analyze results from a semantic differential application. *Educational and Psychological Research*, Summer 1982, *2*, 181-188.

Presents the results of a study conducted with 1,019 students enrolled in freshman English classes at a large southwestern university. Students read and then indicated their emotional responses to a series of nine short lyric poems, authors unidentified for students, using a semantic differential technique. In addition, subjects completed a questionnaire of 26 questions to elicit personal data, academic interest, reading habits, and economic background. Data were analyzed by discriminant analysis, with the pairs of emotion ratings serving as discriminating variables between males and females. Men and women responded to poems differently, with specific poems eliciting considerable differences in canonical correlation coefficients.

Bryson, Susan E., & MacDonald, Valerie. The development of writing posture in left-handed children and its relation to sex and reading skills. *Neuropsychologia*, 1984, *22*(1), 91-94.

Discusses observations made of the handwriting posture of left-handed children in grades 1 (24 boys, 12 girls), 3 (12 boys, 15 girls), and 5 (25 boys, 21 girls) in nine Nova

Scotia public schools. Each child received a composite hand posture score (CHPS) that was the sum of the scores for position of hand (above, parallel to, or below the line of writing) and pencil (pointing, down, horizontally, or up). Seven of the nine schools involved had administered the *Gates-MacGinitie Reading Test*, one the *Metropolitan Achievement Test*, and one the *Canadian Basic Skills Test*. Main findings disclosed that most young boys eventually change from a parallel to an inverted posture, while most girls show an early preference for the noninverted writing posture. At grade 5, reading scores of boys with inverted and noninverted postures (n = 5) did not differ, but boys with parallel or intermediate writing postures had significantly lower reading scores than the noninverted group. The authors believed it possible that a subgroup of left-handers had been identified who possessed rather serious reading difficulties.

FINUCCI, JOAN M., & CHILDS, BARTON. Are there really more dyslexic boys than girls? In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia*. Towson, Md.: The Orton Dyslexia Society, 1981, 1-9.

Seeks to determine the sex ratio in dyslexia. Previous research is cited which indicates the male/female ratio varies from 2 to 1 to 5 to 1. 1980-81 data from nine private day schools which have special programs for dyslexic children show sex ratio ranges from 3 to 1 to 15 to 1 with an overall ratio of 5 to 1. A sampling of 69 cases from special school populations in Baltimore revealed that sex ratio varied as a function of the source of subjects, age, and severity of disability. Whether one defines dyslexia in qualitative or quantitative terms also results in differences in sex ratios. A randomly drawn sample of 241 pupils drawn from affluent sections of Baltimore showed the sex ratio to be 1.2 to 1 when a reading-spelling quotient of .80 was used as the cut-off point; the sex ratio was 1.9 to 1 for those with quotients between .81 and .90. Thus the authors conclude that while there are more boys than girls with dyslexia, the sex ratio will vary depending upon the definition of dyslexia used and how the cases are ascertained.

BAKKER, DIRK J., & MOERLAND, RIEN. Are there brain-tied sex differences in reading? In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia*. Towson, Md.: The Orton Dyslexia Society, 1981, 109-117.

Reviews research and other writings to note whether sex differences in dyslexia are brain tied. The authors maintain that two subtypes of dyslexia can be distinguished: 1) P-type (perceptual) dyslexics who persist in the generation of right-hemispheric, perceptual reading strategies, and 2) L-type (linguistic) dyslexics who make untimely use of left-hemispheric, linguistic strategies. The arguments and writings reviewed suggest that there will be more P- than L-type dyslexic boys and more L- than P-type dyslexic girls. It is concluded that the sex-linked differential development of the learning-to-read process may be related to a prolonged right-hemispheric subservience of reading in boys, whereas in girls there is a comparatively early switch to a primarily left-hemispheric reading subservience.

KERTESZ, ANDREW. Are there sex differences in aquired alexia? In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia*. Towson, Md.: The Orton Dyslexia Society, 1981, 11-19.

Studies sex differences in acquired alexia, using a population of 120 patients who were examined within 45 days of their stroke. Patients were all right-handed and were aphasic as a result of a hemispheric infarct. There were 68 males and 52 females with a mean age of approximately 66. Reading, writing, and language were assessed by sections of the *Western*

Aphasia Battery. Only the writing test suggested greater impairment for males. Sex distribution was noted also for literal alexia, verbal alexia, sentence alexia, and global and diffuse alexia. Because of infrequent occurrences of the first two, the minimal sex differences obtained were insignificant. An even sex distribution was obtained for the other forms.

MCGUINNESS, DIANE. Auditory and motor aspects of language development in males and females. In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia*. Towson, Md.: The Orton Dyslexia Society, 1981, 55-72.

Focuses on aspects of reading difficulties that are sex specific. Research is cited to dispel three myths that persist: 1) six differences arise because of sex-role stereotyping exclusively; 2) males are developmentally retarded in physical, neurological, and psychological development with respect to females; and 3) the nature of the visual perceptual skills involved in reading. Proceeds to a consideration of factors which would appear to indicate that males are at risk with environmental influences which predispose them against the acquisition of fluent reading skills. Draws conclusions which point to the fact that females are more spontaneously gifted in language and reading skills (at least in nonblack populations) and that these abilities are not diminished by low SES, emotional troubles, size or sex-distribution of the family, whereas male reading ability is affected by all these factors. Explores the evidence of sex differences in auditory and fine-motor skills and the correlates of language function and reading achievement. The research appears to reveal that females show greater aptitude in speech development, auditory integration, and fine-motor control. Research points to a consistent relationship between receptive language systems and reading attainment. It is concluded that the strongest predictor of reading ability is phonological encoding and a general language facility. Females appear to be adept in both.

DAY, H.D., & HOLLINGSWORTH, SHIRLEY. Gender differences in the relationship of nascent conservation and reading abilities. *Journal of Educational Research*, July/August 1983, *76*, 347-350.

Seeks to determine if gender differences in the relationship of conservation and reading abilities occur in children who have not received prior reading instruction. Eighty preschool children were administered the Reading Recognition subtest of the *Peabody Individual Achievement Test* (PIAT), the *Concept Assessment Kit-Conservation* (CAK), the *Concepts About Print Test* (CAP), and *Taking Inventory of Children's Literary Background* (CLB). This last instrument had been altered by deleting 20 items to accommodate to the limited attention span of the pre-school child, the alterations being performed by the test's author. The PIAT, CAK, CAP, and CLB wee administered to the 43 girls and 37 boys involved (actually to 75, 78, 76, and 80 participants respectively). Regression analyses revealed a correlation coefficient of .72 between the CAK and PIAT for the girls, but the same coefficient was only -.10 for the boys. A similar difference also occurred in the relationship between the CAK and CAP.

HEYDORN, BERNARD L. Sex differences in symbol reversals and reading achievement by first grade children. *Perceptual and Motor Skills*, December 1983, *57*, 940-942.

Compares the scores of 60 first-grade boys and 55 first-grade girls on the *Gates-MacGinitie Reading Tests, Basic R*, and the *Jordan Left-Right Reversal Test*, Level 1, to see if there were significant sex differences in performance. No significant differences were found between boys and girls in symbol reversal errors or in reading achievement. Overall Gates-MacGinitie performance of pupils who reversed symbols and those who did not was significantly different (p < .01).

FLYNN, ELIZABETH A. Gender and reading. *College English*, March 1983, *45*, 236-253.

Explores gender differences in the interpretation of literature. Twenty-six male and 26 female college freshman were asked to read three short stories and respond to them in writing by summarizing them, or analyzing them, or relating them to their own experiences. The students' responses were analyzed qualitatively and tentative conclusions were drawn about the relationship between gender and reading.

BRYDEN, M.P. Sex-related differences in cerebral hemispheric asymmetry and their possible relation to dyslexia. In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia*. Towson, Md.: The Orton Dyslexia Society, 1981, 81-95.

Presents a consideration of sex-related differences in hemispheric specialization by addressing two separate issues: 1) are there any convincing sex-related differences in hemispheric assymmetry; 2) if so, are these related to a reading disability. Concentrates on data collected through noninvasive techniques such as dichotic listening, lateralized tachistoscopic perception, and dichaptic perception. In general the perceptual studies have shown right-side superiorities for the recognition or identification of verbal material, and left-side superiorities for the recognition or identification of non-verbal materials. Concludes that while there would appear to be repeated hints in the reports of research that hemispheric specialization is less clearly established in females than in males, the possibility cannot be ruled out that these differences appear only because males and females use different approaches to meeting the same task demands. Likewise, there are repeated indications that poor readers differ from good readers in hemispheric specialization, but again the possibility exists that this is due to the fact that the two groups use different approaches to the same task. It needs to be recognized that different types of dyslexia may be related to quite different patterns of cerebral organization.

IV-3 Intellectual abilities and reading

SILLIPHANT, VIRGINIA M. Kindergarten reasoning and achievement in grades K-3. *Psychology in the Schools*, July 1983, *20*, 289-294.

Follows 52 kindergarten children in a longitudinal study relating performance on reasoning, visual-motor integration, and verbal development tasks to achievement scores in kindergarten, grade two, and grade three. In kindergarten, children were administered the *Bender-Gestalt Test*, the *Peabody Picture Vocabulary Test* (PPVT), and Piagetian tasks of reasoning (classification, seriation, and conservation). Achievement tests given were the *Metropolitan Achievement Test* (MAT) at the end of kindergarten, the *Iowa Test of Basic Skills* (ITBS) in grade two, and the *California Achievement Test* (CAT) at the end of grade three. Reasoning scores and Bender-Gestalt scores were related to MAT scores in kindergarten but PPVT and MAT scores were not related. A relationship was noted in grade two between reasoning scores and scores on the Reading and Math Concepts sections of the Iowa (n = 43). In grade three (n = 38), kindergarten reasoning scores were related to total and vocabulary scores on the CAT. Bender-Gestalt and PPVT scores were not related to achievement scores in grades two or three.

KRISHNA, K.P., & AGRAWAL, VIJAYA RANI. Reading ability and intelligence. *Indian Educational Review*, January 1983, *18*(1), 33-39.

Investigates the reading ability and intelligence of 200 male and 200 female adolescents randomly selected from 14 high schools in India. Subjects were given three sub-tests of reading ability: *Hindi Vocabulary Test*, *Hindi Spelling Test*, and *Academic Inventory*; Mohsin's updated *General Intelligence Test*, and Nafde's *Non-verbal Test of Intelligence*. Data were analyzed separately for males and females, based on the results of an earlier study, and were analyzed using two-way analysis of variance, *t*-tests, and product moment correlation procedures. Main effects of sex, verbal and nonverbal intelligence, and their interactions were statistically significant. Product moment correlation coefficients suggested that reading ability was positively associated with both verbal and nonverbal intelligence ($p < .01$).

Breen, Michael J. WRAT-WISC-R correlates for learning disabled, emotionally disturbed, educable mentally retarded, and regular education students. *Educational and Psychological Research*, Spring 1983, *3*, 103-110.

Studies the effectiveness of the *Wide Range Achievement Test* (WRAT) and the WISC-R to identify and classify children with handicapping conditions. The sample consisted of 194 students who had been referred, diagnosed, and assigned to one of four diagnostic categories: learning disabled ($n = 740$), emotionally disturbed ($n = 37$), educable mentally retarded ($n = 34$), and nonhandicapped or regular education ($n = 48$). Nearly all comparisons between the WRAT and the Verbal and Full Scale WISC scores were statistically significant. However, coefficients between the WRAT and Performance IQs were nonsignificant. The WRAT and WISC scores discriminated among some, but not all, handicap groups. Stepwise discriminate function analysis revealed that the following scores, in order of importance, contributed to the classifying process: WISC-R Full Scale, WRAT Reading, WISC-R Performance, and WISC-R Verbal.

DeSoto, Janet L., & DeSoto, Clinton B. Relationship of reading achievement to verbal processing abilities. *Journal of Educational Psychology*, February 1983, *75*, 116-127.

Evaluates 134 fourth-grade pupils, 67 achieving readers and 67 nonachieving readers, on 10 instruments to determine if there is a relationship between reading achievement and ability to process verbal information. Subjects were administered three tests from the *Detroit Learning Aptitude* battery for memory span; the Verbal Opposites subtest for semantic association, the Word Learning subtest from the *Van Wagenen Reading Readiness Scales* for associative learning; a picture-word interference test for automatic word processing; a speed of naming pictures and reading words task, and an assessment of recoding speed and accuracy using pseudowords. The performance of achieving readers was superior to nonachieving readers on all except automatic word processing. Each of the measures was significantly correlated with nonverbal intelligence and reading comprehension except automatic word processing. With intelligence partialed out, verbal opposites, recoding accuracy, recoding time, reading words, auditory attention span for related syllables and picture naming were significant at the .001 level. Visual attention span, and the word learning subtest were significant at the .01 level. Auditory attention span was significant at .05. Factor analysis yielded three factors – verbal coding speed, memory span, and verbal operations. Reading comprehension loaded on the first and third factors but not heavily on memory span.

Hunt, Earl B.; Davidson, Janet; and Lansman, Marcy. Individual differences in long-term memory access. *Memory and Cognition*, November 1981, *6*, 599-608.

Examines the relation of verbal ability and speed of access to information in long-term memory by replicating and extending a 1978 study. Subjects were 75 paid undergraduates. There were 3 semantic categorization tasks: whether an item was a member of a category, whether two items belonged to the same category, and whether two words had the same name. Reaction times to make these categorizations was correlated with verbal ability which was assessed with the *Nelson-Denny Reading Test* and a sentence-picture comprehension test. Significant correlation coefficients between verbal ability and reaction times were found ranging from -.19 to -.29 for composite reading score and -.06 to -.24 for sentence-picture test. These findings are in contrast to the earlier study. The present authors discuss these differences and conclude the various reaction times measures form a single factor that has a moderate relation to reading and vocabulary measures.

MERKEL, Stephen P., & HALL, VERNON C. The relationship between memory for order and other cognitive tasks. *Intelligence*, October-December 1982, *6*, 427-441.

Reports the results of two experiments which examine the relationships among memory for order (digit span forward) and other mental abilities for different age groups. In the first experiment, 30 college students were given measures of memory for order, measures of mental manipulation (verbal math problems), and measures requiring short-term memory. General cognitive measures (grade point average, final Psychology grade) were also obtained. Correlation coefficients among the various measures of memory for order were high. Measures of mental manipulation were not significantly correlated with memory for order and no significant relationships were found among the mental ability measures and the general cognitive measures. In the second experiment, the same types of measures, slightly modified, were administered to 30 fifth-grade children. Unlike the adults, memory for order was highly correlated with mental manipulation, intelligence, and achievement measures for children.

IV-4 Modes of learning

KAMPWIRTH, THOMAS J. Modality preference and reading among first graders. *The Exceptional Child*, November 1981, *28*, 155-165.

Examines the interaction between visual and auditory perceptual modality preference and visual and auditory methods of teaching word recognition. Three auditory and three visual modality tests were administered to 100 children who were finishing first grade: the *Illinois Test of Psycholinguistic Abilities* (ITPA) Auditory Sequential Memory subtest, the *Wepman Auditory Discrimination Test*, the ITPA Auditory Closure subtest, the ITPA Visual Sequential Memory subtest, a variation of the *Kagan Matching Familiar Figures Test* and the ITPA Visual Closure subtest. All subjects were taught two sets of 25 nonsense words, one by auditory methods and one by visual methods. All nonsense words were three or four syllables. The auditory method emphasized the sounds of each syllable, the visual method emphasized the shape of the word and the similarity of specific letters in the nonsense word. There were 30 seconds allotted for teaching each word. For all subjects, the visual teaching task resulted in greater learning. Using performance on the modality tests, modality preference was ascertained and the word recognition scores obtained for each of the teaching methods was compared. For both boys and girls, there was no significant interaction: those with an auditory modality preference did not learn more words by the auditory method, and those with a visual modality preference did not learn more words by the visual teaching method. Concludes that there is no consistent interaction between modality preference and the modality of the teaching method.

THORPE, HAROLD W.; LAMPE, SCHERIE; NASH, ROBERT T., & CHIANG, BERTRAM. The effects of the kinesthetic-tactile components of the VAKT procedure on secondary LD students' reading performance. *Psychology in the Schools*, July 1981, *18*, 334-340.

Evaluates the effects of the kinesthetic-tactile component in VAKT instruction. Subjects of the study were three male learning disabled high school students. Their full scale WISC-R IQ scores were 86, 93, and 91; and their reading levels as measured on the *Wood-*

stock-Johnson Psychoeducational Battery were 2.6, 3.5, and 3.0. Baseline word learning data were established by teaching words to subjects A, B, and C by the VA method (no K-T) for 4, 8, and 12 days respectively. After completing the baseline period (2 days for subject A, 8 for subject B, and 4 for subject C) subjects were taught words by the VAKT method. From the words missed on a pretest of words from a spelling program, 16 equivalent 10-word lists were developed. Retention of words learned (reading and spelling) was measured daily and one week, three weeks, and six months after the study. It was not reported if the instructional time for the two tasks was equivalent. For word reading, all three subjects learned more words daily with the VAKT method, and they retained more words on each of the long-term retention tests. There were no differences between the methods in learning or retention for word spelling.

Riding, Richard J., & Anstey, Linda. Verbal imagery learning style and reading attainment in eight-year-old children. *Journal of Research in Reading*, February 1982, *5*, 57-66.

Compares reading accuracy and comprehension performance with verbal-imagery-learning style in 40 children, ages 7-8 to 8-7. The *Verbal Imagery Code Test* was used to assess learning style, and subjects were divided into five groups for each sex according to their performance: Extreme verbalizer, Verbalizer, Intermediate, Imager, Extreme imager. The *Neale Analysis of Reading Ability* was the measure used to assess reading accuracy and comprehension. No significant sex differences were noted. Both reading accuracy and comprehension scores tended to be highest for verbalizers and lowest for imagers.

Solan, Harold A.; Usprich, Celia; Mozlin, Rochelle; Ali, Steven; & Fitzpatrick, Charles. The auditory-visual integration test: Intersensory or temporal-spatial? *Journal of the American Optometric Association*, July 1983, *54*, 607-616.

Tests children on an intramodal temporal-spatial task and an intermodal temporal-spatial task at the beginning and end of first grade and determines the relationship with reading achievement. Subjects were 21 boys and 21 girls from two suburban parochial schools. The *Auditory-Visual Integration Test* (AVIT) and the *Visual-Visual Integration Test* (VVIT) were given at the beginning and end of the year. The *Gates-MacGinitie Reading Tests* were used as the measure of reading achievement. At the beginning of grade one, no significant differences were found between the means of the two integration tests. At the end of first grade, the AVIT mean was significantly higher than the VVIT mean. The correlation coefficient between the two tests was .762. Both AVIT and VVIT mean scores showed significant gains over the school year. Both AVIT and VVIT scores showed significant correlation coefficients with the Gates Vocabulary (.546 and .365 respectively) and Comprehension (.546 and .404).

Levine, Maureen J. The effect of task parameters in diagnostic reading groups. *Psychology in the Schools*, July 1983, *20*, 276-283.

Compares the performance of 16 normal readers (NR) and 32 children with reading deficits on intersensory and intrasensory tasks requiring paired and serial recall. All subjects were boys, ranging in age from 9 to 13. The reading deficit group was further classified into 16 primary readers who showed problems in processing auditory information and in the conceptual integration of auditory and visual stimuli, and 16 secondary readers who showed problems in the processing of visual information and sequential processing. Classification as primary or secondary readers was made on the basis of performance on the *Minnesota Percepto-Diagnostic Test*. Auditory and visual stimulus pairs composed of digits from 1 to 9, which incorporated variations of intersensory and intrasensory conditions, were administered. Recall errors of both deficit groups exceeded those of the NR group. Total recall errors for the secondary readers were greater than those of the primary reading group. Compared to the other groups, the secondary reading group was poorer in memory sequencing. All readers exhibited similar patterns in the processing of bisensory information, but there were unique differences among the three groups across task parameters.

Gold, Ron. Recall of story schema categories by reading disabled adults: Effect of mode of presentation. *Perceptual and Motor Skills*, April 1983, *56*, 387-396.

Compares the recall of three stories by 18 adults enrolled in remedial classes when the stories were listened to, read aloud, or read silently. Stories were presented to subjects in one session, with subjects experiencing one story in each mode. After listening to or reading a story, subjects were given three minutes of simple vocabulary exercises, prior to their oral retellings. Recall protocols were scored in two ways: verbatim or close paraphrase and partial essence. Rank order of story categories recalled was the same for silent and oral reading: 1) major setting, 2) direct consequence, 3) initiating event, 4) attempt, 5) internal response, 6) reaction, and 7) minor setting. Rankings for the recall of taped presentation were the same on the first three ranks but differed on the others. Statistical analyses compared the proportion of propositions recalled in each category across the different conditions. No significant effect for mode or interaction of mode and story was found for any of the three analyses, although there was a significant story effect for two of the stories. Tests for differences in the times taken for the three stories showed that none of the main effects or interaction effects were significant. Patterns were similar when they heard the stories or when they read them orally or silently. No significant differences were found in the proportion of statements recalled across the three modes.

Denis, Michel. Imaging while reading text: A study of individual differences. *Memory and Cognition*, November 1982, *10*, 540-545.

Discusses a series of four experiments in which reading time of texts and memory for their informational content were studied in relation to readers' imagery abilities. All subjects were native speakers of French, were introductory students in psychology, and none appeared in more than a single experiment in the series. Each experiment had 42 students, with the sex ratio approximately 3 females to every male. Subjects were classified as high imagers (HI) or low imagers (LIs) according to whether their scores were above or below the group's median on the Vividness of Visual Imagery Questionnaire.

IV-5 Experiments in learning

Jonassen, David H. Individual differences and learning from text. In David H. Jonassen (Ed.) *The Technology of Text: Principles for Structuring, Designing and Displaying Text*. Englewood Cliffs, N.J.: Educational Technology Publications, 1982, 441-463.

Reviews research on individual differences in learning from text. Variables examined include reading ability, comprehension, cognitive styles, prior knowledge, discourse analysis strategies, mathemagenics, and text structure. It is concluded that a major determinant of individual differences is the ability of readers to use prior knowledge in comprehension.

Reder, Lynne M. Elaborations: When do they help and when do they hurt? *Text*, 1982, *2*(1-3), 211-224.

Discusses the role of elaborative processing in memory and text processing. Elaborative processing is defined as generating embellishments during comprehension. First, elaboration theory is discussed. Next, empirical evidence is presented which contradicts the theory by showing the superiority of summaries over elaborated text. Finally, an explanation is offered to reconcile the apparent contradictions and additional evidence is provided to support the explanation.

Taylor, Barbara, & Berkowitz, Sandra. Facilitating children's comprehension of content material. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 64-68.

Investigates the effectiveness of different study techniques on elementary children's comprehension of and memory for prose. Subjects were 108 sixth grade pupils reading on or above grade level, as determined by teacher judgment and placement in basal reading material. Pupils read a sixth grade social studies passage in one of four conditions and then completed a short answer comprehension test. A day later, they wrote a recall and completed a multiple choice test. The four conditions were using a summary technique, using a study guide, answering questions after the passage, and reading plus a subsequent distractor task. Subjects were trained in the relevant study technique a week before the administration of the test passage. Propositions were scored using a technique adapted from previous research. The summary group recalled more propositions in general and more main idea propositions than the other three groups ($p < .05$). No other differences among groups were found.

Alexander, Patricia A., & Garner, Ruth. Effects of realistic and unrealistic criteria for performance on the studying behavior of expert adult readers. *Reading Psychology*, October-December 1982, *3*, 311-324.

Studies 30 undergraduates reading an extended text and participating in one of three treatment conditions: no criterion, where subjects were to list similarities mentioned in the article; realistic explicit criterion, where subjects were told there were 40 similarities and to list as many of them as possible; and unrealistic explicit criterion, where subjects were told there were 75 similarities and asked to list as many as possible. A protocol of the passage produced a list of 54 similarities in the actual text. Subjects were also asked to answer a five-point satisfaction scale on how well they felt they had done in answering the task. If students were dissatisfied with their performance, they had the option to select pages from the article for rereading, and to state why they reread those pages. A final sheet asked if peer behavior affected the students as they completed the task. No significant treatment effects were determined on the rereading-reanswering option. For all three treatments, only 11 chose the reanswering option. For number of non-redundant responses, significant differences were noted between unrealistic and realistic treatment means. No significant relationships were found between performance satisfaction and actual performance. For those who chose the option of reanswering, mean satisfaction improved on the second round. Six subjects did report that others in the room and time and criterion expectations had influenced their responses.

Schmidt, Stephen R. The effects of recall and recognition test expectancies on the retention of prose. *Memory & Cognition*, March 1983, *11*, 172-180.

Explores whether students employ different types of study strategies when expecting a recall test as opposed to a recognition test. Two experiments are presented with 366 and 360 undergraduate psychology students as subjects. In Experiment 1, 60 fiction and 60 non-fiction unrelated, self-contained sentences were used. Half were assigned to List 1 and half to List 2. Each sentence was then rewritten to form an alternate version similar in meaning but different in syntax and wording. Four lists of sentences were then constructed. Subjects were told to expect either a recall or a recognition text. Results indicated that recall expectancy leads to memory for a greater number of sentences than does recognition expectancy. In Experiment 2, two versions of two short essays were prepared. Again recall test expectancy led to greater recall than did recognition text expectancy. Recall expectancy also led to remembering greater detail than did recognition expectancy.

TATE, RICHARD, & BURKMAN, ERNEST. Interactive effects of source of direction, allocated time, reading ability, and study orientation on achievement in high school science. *Science Education*, July 1983, *67*, 509-522.

Analyzes the interactive effects of management variables and student aptitude variables on student achievement. Data were gathered as part of a national field test of the *Individualized Science Instructional System* (ISIS), an objectives-based modular system for teaching high school life and physical sciences. The sample was comprised of 1,108 students from 75 classes taught by 26 teachers. A factorial design included three levels of source of direction (student-directed, group-directed, or teacher-directed pacing), and two levels of allocated time (45 versus 50 class periods), resulting in six different treatments. Student reading ability and study orientation were also analyzed to detect possible aptitude-treatment interactions. The dependent variable was achievement on a multiple-choice instrument covering three units or minicourses. The relative order of superiority of the three types of source of direction were student-directed, teacher-directed, and group-directed approaches. Complex ordinal interactions were noted between source of direction and student aptitudes. A disordinal interaction was found between allocated time and study orientation.

DUCHASTEL, PHILIPPE C. The use of summaries in studying texts. *Educational Technology*, June 1983, *23*(6), 36-41.

Explores the value of summaries in studying texts through a review of the literature. Selected research on summaries is briefly described, then potential text-learning outcomes other than main points and details are informally analyzed. A scheme representing the outcomes derived from studying a text is presented and compared with outcomes from study of summaries. Each form of presentation had advantages/disadvantages, and it is suggested that instructional decisions as to which approach to adopt or emphasize need to depend upon which outcomes are desired.

HALE, GORDON A. Students' predictions of prose forgetting and the effects of study strategies. *Journal of Educational Psychology*, October 1983, *75*, 708-715.

Views the effects of a note-taking procedure and high school students' expectations about the effects of note taking and other strategies on learning from a prose passage. the 372 11th and 12th graders were randomly assigned to one of six groups: reading only versus note taking and 1, 8, or 15 days delay prior to taking a retention test. Students were given a 24-paragraph passage on the history of China followed by 12 four-item multiple-choice immediate and delayed retention tests. A questionnaire asked students to predict how well they would score on a test given 1, 8, or 15 days later. Read-only students were asked to read and reread the passage until time was up; note-taking students were told to write down the main idea of each paragraph. Students' estimated scores were lower than those actually received on the delayed retention test. The effect of note taking on immediate test scores was small but statistically significant. Delayed retention was not aided by note taking.

VEZIN, JEAN-FRANCOIS. Text structure and note-taking activity. *International Journal of Psycholinguistics*, 1981, *8*(4), 23-36.

Investigates the relation between note-taking and the structure of texts. Subjects (n = 100) were 13-year-old high school students who were presented texts in one of five conditions. Key sentences in the text were accompanied by different types of elaboration; 1) unified examples – with each key sentence, the same example was developed on the basis of the information contained in the key sentence (Ex U); 2) varied examples – the example changed with each new key sentence (Ex V); 3) anecdotal sentences – anecdotal expansions of the key sentence (An); 4) two elaborative sentences of the form Ex U and An; and 5) two elaborative sentences of the form Ex U and Ex V. Each subject received an envelope containing individual sentences from one of the conditions and was required to order the sentences to reconstruct a logical and comprehensible passage. Subjects were then required to take notes using a maximum of three words or groups of words for each sentence. Notes were evaluated in terms of volume and number of key words or expressions. The volume of notes increased with the length of the text ($p < .005$), and was greater for key sentences with examples than key sentences with anecdotes ($p < .05$). More key words were also noted from key sentences with examples as compared to anecdotes ($p < .05$). No difference was found in the volume of notes for unified as compared with varied examples.

Orlando, Vincent P. A comparison of notetaking strategies while studying from text. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 219-222.

Investigates the effect of purpose on note-taking while studying from text. Subjects ($n = 60$) were undergraduates and were asked to take notes either to be used for later study (External Storage Group) or to help them remember the information in the passage (Encoding Group). Three equivalent tests of the passage used were constructed and administered immediately before, immediately after, and a week after the note-taking task. The Encoding Group recalled more ideas than the External Storage Group on the immediate posttest ($p < .05$), and on the delayed posttest ($p < .05$). The External Storage Group reproduced more ideas in their notes than the Encoding Group ($p < .05$).

Watkins, David. Identifying the study process dimensions of Australian university students. *The Australian Journal of Education*, April 1982, *26*, 76-85.

Probes the study process dimensions of 540 first-year Australian university students and investigates individual differences in these processes and the academic consequences of such differences. Students responded to Ramsden and Entwistle's *Approaches to Studying Inventory*. Four factors emerged: a meaning factor, a surface/confusion factor, an operation learning factor, and an extrinsic motivation factor. Differences were also present according to the area of students' study. Main effects of area of study and age were signficant on meaning orientation; age on extrinsic motivation and negative attitudes; sex on fear of failure, operation learning, improvidence, and surface/confusion was the only factor substantially and consistently related to grades. Negative coefficients of correlation were found with the surface approach, the disorganized approach, negative attitudes, and grades.

Gettinger, Maribeth, & Lyon, Mark A. Predictors of the discrepancy between time needed and time spent in learning among boys exhibiting behavior problems. *Journal of Educational Psychology*, August 1983, *75*, 491-499.

Identifies factors explaining the discrepancy between time needed for learning and time spent in learning. Subjects were 96 boys attending a summer school/camp for boys with problem behaviors; all had completed third or fourth grade and were identified by school personnel as having behavior difficulties. Subjects had average IQs and average reading scores on the WRAT. Additionally, measures of interest on science or social studies topics and the *Intellectual Achievement Responsibility Questionnaire* were administered. Subjects participated in two experimental reading sessions on two consecutive afternoons. In session one, subjects were told to work on the task until they reached 100% accuracy. Subjects read and listened to grade appropriate materials and took criterion tests to determine mastery. In session two, subjects self-regulated the number of learning trials they took, and time persevered was recorded. A discrepancy score was determined by subtracting the number of trials children spent in learning from the number of trials they needed for learning. Reading achievement, attention deficits, low self-concept, locus of control, interest level, and IQ accounted for 63% of the variability in the discrepancy index. The reading achievement score was the single best predictor of the discrepancy, explaining about 35% of the variance. Implications for educational practice are included.

Treiman, Rebecca, & Baron, Jonathan. Phonemic-analysis training helps children benefit from spelling-sound rules. *Memory and Cognition*, July 1983, *11*, 382-389.

Reports the results of two studies designed to examine the effects of phonemic-analysis training on the learning of spelling-sound rules. In study one, eight preschool nonreaders served as subjects. Each pupil received phonemic analysis instruction with certain sets of words and a control task with other sets of words. The reading task was a paired-associate procedure which included related words (words that corresponded directly to the spoken syllables used in training). An analysis of the mean number of errors showed no significance for either main effect, training or type of item, but a significant interaction between condition and item type. Study two essentially replicated the first study with two changes. Training was increased to include blending as well as segmentation. The reading task was modified by teaching the component parts of the test words before testing with the whole words. The findings were similar to study one. Interaction between condition and item type was significant but neither main effect of condition nor item type was significant.

Booth, Vera Southgate, & Johnson, Sandra. The phonic competencies of children aged seven to nine years. In G. Bray & A.K. Pugh, (Eds.) *The Reading Connection*. London: Ward Lock Educational, 1980, 112-121.

Reports just one aspect of a large national survey conducted in Great Britain between 1973 and 1977. This particular report discusses the development and trial of a diagnostic phonics test. A 55-item phonics test using nonsense words was developed and administered to nearly 400 children between the ages of seven and nine. Pupil performance was categorized according to phonic rules and categories were ranked from most difficult to least difficult. In general, categories of phonic rules least known were vowel digraphs, the rule of silent e, and such combinations as er, or, and ar. Children were most successful with consonant blends. There was some evidence that teachers were not adequately diagnosing phonic skills.

Hohn, William E., & Ehri, Lin[illegible] C. Do alphabet letters help prereaders acquire phonemic segmentation skills. *Journal of Educational Psychology*, October 1983, *75*, 752-762.

Determines whether alphabet letters facilitate the acquisition of phoneme segmentation skill, and tests the assumption that letters make it more difficult for prereaders to learn segmentation than nondistinctively marked visual aids. Subjects were 24 kindergarteners who were able to identify alphabet letters but unable to read preprimer words or to segment phonemically. Based on similar scores on the *Peabody Picture Vocabulary Test* and on a letter-name task, three treatment groups were formed. In one condition, children were instructed in segmenting two- and three-phoneme blends using alphabet letter markers to represent the sounds. In the second condition, instruction was similar except that markers did not display letters. The third condition was a no training control group. Training was given until children reached criterion. Both pre- and posttests were given requiring segmenting nonsense words into phonemes and decoding nonsense words. Additional posttest tests called for deleting phonemes in nonsense words, reinstating memory for letter names and sounds, and learning to decode nonsense words. Both experimental groups took approximately the same time and number of trials to reach criterion during training. Errors indicated that letters helped children to distinguish phoneme-size units and to remember the correct sounds during the task. On the posttesting, both experimental groups segmented unpracticed blends better than controls. The letter group was better than the nonletter group in segmenting practiced sounds.

Spring, Carl; Blunden, Dale; & Gatheral, Maryann. Effect on reading comprehension of training to automaticity in word-reading. *Perceptual and Motor Skills*, December 1981, *53*, 779-786.

Examines the effects of training children to read words more rapidly (automaticity training) on reading comprehension. Subjects were 48 third-grade children reading at grade level in their reading series. Two reading texts were selected from fourth-grade reading materials, each about 270 words long. Each passage was converted to a cloze test by deleting every fifth word. All words from each text, with the exception of cloze words and very common articles and propositions, were completed for automaticity training. There were 88 words for passage A and 81 for passage B. Experimental and control subjects' rate of reading each word was measured first as a baseline test; errors were not corrected. Experimental subjects then received the automaticity training, which consisted of reading on six consecutive trials each of the words on the list that had been read correctly on the baseline test. Subjects were not taught to read words not read correctly on the baseline test. All subjects then completed the cloze tests. To discourage rereading, subjects were required to read orally. There were no significant differences between experimental and control subjects on the number of errors on baseline test, but the experimental group did make more 2.4% more errors. The authors used performance on the baseline data as a covariate in analyzing cloze test performance. Using a stepwise regression analysis, no significant difference in cloze performance between the two groups was found. This analysis did indicate that children who made more baseline word reading errors did score significantly lower on the cloze tests.

Pellegrini, A.D., & Galda, Lee. The effects of thematic-fantasy play training on the development of children's story comprehension. *American Educational Research Journal*, Fall 1982, *19*, 443-452.

Examines the effects of three modes of story reconstruction training (thematic-fantasy play, adult-lead discussion, and drawing) on the development of 108 children's story comprehension. Subjects were randomly selected from grades K-2 and assigned randomly in groups of four to one of the three treatment conditions. Sessions consisted of first reading each group stories, and then exposing them to the appropriate training condition. In thematic-fantasy play, children were assigned a role from the story. In the discussion condition, children were asked evaluative and clarification questions. In the drawing condition, children were asked to draw as much about the story as they could. Factor analysis determined two main factors were present: story-related intelligence and judgmental intelligence. For kindergarten and first grade, play groups scored higher than discussion and drawing groups on story-related comprehension. No differences were present in conditions for second graders. On judgmental intelligence, there were no significant differences between play and discussion groups or between discussion and drawing groups. Play groups scored significantly higher than drawing groups; grade one scored higher than kindergarteners. On retellings and sequence, play groups recalled more events than discussion and drawing groups, with second graders recalling more than the others. Only at the kindergarten level did the specific role played affect the total recall. Children playing active roles had better total recall and sequential recall scores.

Tillema, H. Webteaching: Sequencing of subject matter in relation to prior knowledge of pupils. *Instructional Science*, December 1983, *12*, 321-332.

Reports the results of two studies designed to assess the effectiveness of webteaching, a procedure for sequencing material that takes into consideration pupils' prior knowledge and the structure of the subject matter. The first experiment employed a two-by-two factorial design with two levels of prior knowledge (high versus low) and two types of text presentations (webteaching versus linear sequence). Subjects were 59 sixth-grade pupils. A 20-item multiple-choice test assessed concepts presented in the 800-word text. No significant effects for type of text presentation were found, nor was there any significant interaction between text type and prior knowledge. The second experiment was similar in design but contained several changes. Only subjects low in prior knowledge were used. The two text conditions, web and linear, were crossed with the presence or absence of an external scheme (a graphical representation of the concepts in the text) resulting in four text versions. Comprehension was assessed through free recall as well as a multiple-choice test. A delayed posttest was also included. Statistical analyses found significant differences favoring the web text but no differences due to the external scheme.

Dansereau, Donald F., Brooks, Larry W.; Holley, Charles D., & Collins, Karen W. Learning strategies training: Effects of sequencing. *Journal of Experimental Education*, Spring 1983, *51*, 102-108.

Evaluates an interactive learning strategy system consisting of a set of primary strategies (text oriented) and a set of support strategies (affective). College students were randomly assigned to one of two training groups: the P/S group which received primary training followed by support training (n = 28), and the S/P group (n = 29) in which support training was followed by primary training. Additionally, a control group of 42 students was formed. The P/S group received about seven hours of training and practice, given in two one-hour weekly sessions, on primary strategies; the S/P group received the same amount of training and practice on support strategies. This segment was followed by testing over one of two 2,500-word passages and then another seven weeks of training in which the P/S group now received support strategies and the S/P group, primary strategies. Post-training assessment tests over a passage were again administered and four self-report forms were also given. A 10-item questionnaire was sent to all participants three months after the course ended to evaluate long-term effects. Results of analysis of covariance procedures revealed that both strategy groups outperformed controls and reported more positive learning attitudes and behaviors. Analyses of the text-processing tasks revealed that the P/S group benefited more from training than did the S/P group. However, the S/P group reported more positive responses on the self-report measure.

Alvarez, Marino C. Using a thematic pre-organizer and guided instruction as aids to concept learning. *Reading Horizons*, Fall 1983, *24*, 51-58.

Explores the effect that adjunct textual aids have on students' understanding of expository text. Two supplemental aids were developed to accompany a two-page selection from a social studies text. One was a thematic pre-organizer, a type of advance organizer intended to relate the main theme of the passage to the reader's background. The second was a guided instruction exercise consisting of inferential statements read prior to the text and to which the reader must agree or disagree. A sample of 50 ninth-grade students, judged to be average readers, were randomly assigned to five treatment groups. One group was used to determine students' prior knowledge about the topic and did not receive any instruction. A second group received both adjunct aids; a third group was given the thematic pre-organizer and the passage; and a fourth group received the guided instruction exercise and the passage. The fifth group read the intact passage without any supplemental aids. Comprehension was assessed through individually recorded interviews. Free responses were classified as literal or inferred. One-way analyses of variance found no significant difference in the number of literal responses among the treatment groups. However, students receiving both adjunct aids made significantly more inferred responses than students in other treatment groups.

Carnine, Douglas W.; Kameenui, Edward J.; & Woolfson, Nancy. Training of textual dimensions related to text-based inferences. *Journal of Reading Behavior*, 1982, *14*(3), 335-340.

Investigates inference behavior in reading comprehension. Subjects (n = 36) were fifth grade pupils who were selected on the basis of 1) their ability to accurately and fluently read three screening stories, and 2) their failure to answer the inference question specific to each of the stories. The children were randomly assigned to a systematic instruction group, a corrective feedback group, and a control group. The three screening stories plus three more were used for training, and three more for the transfer test. The systematic instruction group received training involving a prompted questioning strategy, concerned with the identification of the problem statement, rule, and critical information in each story, in three sessions on three consecutive days. Over the same period the corrective feedback group read the story and received corrective feedback on misread words and the inferential question at the end of each story. The control group participated only in the screening and transfer test sessions. The mean number of correct responses on the transfer test was higher for the systematic instruction group than the other two groups ($p < .05$).

Mayer, Richard E. What have we learned about increasing the meaningfulness of science prose? *Science Education*, April 1983, *67*, 223-237.

Discusses the application of an information processing framework to meaningful learning from science tests. Research related to five types of instructional techniques is examined: 1) organization of prose, 2) use of concrete analogies as advance organizers, 3) use of inserted questions in prose, 4) elaboration activities such as note taking, and 5) discovery learning. Recommendations are given as to how each technique should be applied to science texts.

Winne, Philip H. Training students to process text with adjunct aids. *Instructional Science*, October 1983, *12*, 243-266.

Tests whether the learning of fifth-, sixth-, and seventh-grade pupils can be improved when they are taught by being exposed to instructional objectives or adjunct questions. Subjects were 89 children in two grade 5, two grade 6, and one grade 7 class in a private school. Following the administration of a pretest, half of the pupils were placed in a placebo experience and the other half were taught to use a particular cognitive and behavioral strategy matched to one of three text formats: straight text, text preceded by instructional objectives, and text accompanied by adjunct postquestions. Children in the placebo conditions either discussed how they learned from text or received explicit instruction in learning from text. Several assessment measures were used to gauge the impact of instruction. Pupils read a short text and then were asked to write a description of how they had applied strategies covered in their instruction to learning concepts in the text. A second assessment involved a six-item multiple-choice test over a three-page text presented in the format of the treatment to which a pupil had been assigned. As a third evaluative measure, pupils read a series of lessons on a unit topic over four days and then wrote two essay items on Friday. Additionally a 24-item multiple-choice test keyed to the four days' lessons was administered. Data analysis was conducted on only 46 of the 89 pupils. Regression analysis procedures were followed in analyzing data. The author found that only six pupils who participated in instruction failed to demonstrate in their description that they had applied the processes learned to the text. However, the maintenance of observable indications of the use of learned techniques such as underlining concepts in text diminished over the series of four unit lessons. Analysis of multiple choice tests did not reveal the expected increments in learning of experimental groups as compared to placebo groups.

LEASAK, JERRY; HUNT, DENNIS; & RANDHAWA, BIKKAR S. Cognitive processing, intervention and achievement. The *Alberta Journal of Educational Research*, September 1982, *28*, 257-266.

Undertakes research to determine if fourth graders' achievement scores would benefit from a program designed to improve simultaneous processing. Subjects consisted of two classes of experimentals (n = 48) and two control classes (n = 48) from four rural schools in Saskatchewan. Simultaneous processing was assessed by *Raven's Colored Progressive Matrices*, *Figure Copying*, *French Copying Test*, and the *Matrix Test*. Successive processing was assessed by the *Serial Recall Test*, *Digit Span Test*, and the *Visual Short-Term Memory Test* (VSTM). The word recognition, spelling, and arithmetic subtests of the *Wide Range Achievement Test* (WRAT) were also given. All instruments were administered as pre- and posttests. Treatment, given for 16 instructional hours over a period of 16 weeks, consisted of exercises which provided pupils with practice in forming verbal and nonverbal relationships by linking items of information into a surveyable array and making inferences. Examination of factor matrices indicated no change in the Raven's scores. The treatment did appear to have some positive effect on the VSTM score. There was also a significant improvement in arithmetic and reading scores on the WRAT.

SCHROEDER, RUTH H. Improvement in academic achievement through enhancement of perceptual and sensory integrative functioning. *School Psychology International*, April-June 1982, *3*, 97-103.

Compares the effects of two techniques on achievement test scores of first graders. In the fall of the year, 87 children were screened for perceptual deficits using the *Bender Visual-Motor Gestalt Test*, *Wepman Auditory Discrimination Test*, and the Manual Form Perception Test from the *Ayres' Southern California Sensory Integration Tests*. The 15 children identified as having significant perceptual deficits in three areas were divided into three groups for a 16-week remedial program. Group 1 worked with a reading teacher using a commercially prepared visual-motor and auditory-motor skills program. Group 2 received sensory integrative therapy with occupational therapists. The third group received remediation through both approaches. Instruction was for approximately 90 minutes per week. Additionally, there was a control group of five children with no measured perceptual deficits who remained in the regular classroom. In addition to the three pretests, the reading, spelling, and arithmetic subtests of the *Wide Range Achievement Test* were given as pre- and posttests. Improvement was found in all perceptual functioning for Group 3. Group 2 showed greater improvement in tactile perception, and Group 1 showed greater improvement in auditory perception. Both approaches gave gains in visual perception. Group 1 showed the greatest pre-posttest gain on WRAT Reading (1.1 years), while Group 2 children showed the greatest gain on the WRAT Arithmetic score (.82 years). Controls showed a gain of .92 years in reading, .34 in arithmetic, and .80 in spelling on the WRAT.

JOHNSON, RONALD E., & LUFTIG, RICHARD. Encoding of semantically distorted sentences. *American Journal of Psychology*, Winter 1982, *95*, 681-691.

Inquires, in two experiments, into the generality of subjects' tendencies to normalize semantically distorted sentences. Subjects were 52 and 60 undergraduates randomly assigned to one of four groups in each experiment. In Experiment 1, subjects were to paraphrase four sentences each of eight different types. Instructions differed in the four groups in terms of whether or not subjects were informed or not-informed that they would receive distorted sentences and informed or not-informed that sentences were to be recalled. Sentence types differed in logic (logical/distorted), grammatical conjunction (and/after, or/if). Conjunctive sentences were normalized more frequently than disjunctives. Neither advance warning of distorted sentences nor of recall influenced the frequency of normalization. Experiment 2 paralleled the first experiment except that only four sentence types were used. Prior warning and expectation of recall reduced normalization. Percentage of correct recall of normalized paraphrases ranged from 60.3% for the no-warning condition to 75.7% for the group receiving both warnings. In Experiment 1, mean number of correct recalls of original sentences was 29.25 out of 32. The results of the two experiments indicated that the extensiveness of normalization was influenced by the situational demands of the task.

Ackerman, Brian P., & Rust-Kahl, Elizabeth. The effects of contrastive encoding of semantic information on children's memory for words. *Journal of Experimental Psychology*, December 1982, *34*, 414-434.

Cites results of two experiments examining the effect of context-sensitive contrasting encoding of semantic item information at input on memory for words. In both experiments, subjects were 36 second and fifth graders and 36 college students. Stimuli were word triplets varying in categorical relatedness. Each triplet consisted of a target item which was highly related, moderately related, or unrelated to other triplet members. Subjects were either to isolate and remember the odd target word (oddity encoding) or to read and remember the word identified by the examiner (read encoding). Recall and recognition were tested and were found to vary as a function of decision difficulty in isolating the target members. There were developmental differences in both absolute retention levels and the patterns associated with decision difficulty. These differences were maximized in the read encoding condition and minimized in the oddity encoding condition. The authors interpret their results as suggesting that children differ from adults in the degree to which they perform distinctive contrastive encoding of item specific information at input, and that as a result retention varies.

Lee, Seong-Soo, & Edwards, Peter. Retrieval of abstract nouns as a function of mnemonic instructions and reading ability. *Journal of Mental Imagery*, Fall, 1981, 5(2) 117-126.

Examines the effectiveness of two mnemonic instructions on the serial recall of 20 abstract nouns. The subjects of the experiment were 33 students enrolled in a university reading-study skill course. All subjects were given the *Nelson-Denny Reading Test*. There were three experimental conditions: method of loci, verbal elaboration, and control. The subjects' task was to recall a list of 20 abstract nouns presented orally one time. For the method of loci condition subjects were instructed to associate each of the abstract words with a concrete word and also instructed in a method for remembering the concrete words' verbal elaboration. Subjects were instructed to associate each abstract word with a concrete word, but were given no instructions as to how to remember the concrete words. The controls were told to recall the abstract words. The method of loci was found to result in a significantly more accurate serial recall. Recall performance was significantly predicted by reading ability for only the two experimental groups.

Pressley, Michael; Levin, Joel R.; Kuiper, Nicholas A.; Bryant, Susan L.; & Michener, Sarah. Mnemonic versus nonmnemonic vocabulary-learning strategies: Additional comparisons. *Journal of Educational Psychology*, October 1982, *74*, 693-707.

Reports five experiments attempting to determine if the keyword method of vocabulary learning is superior to five methods designed to increase semantic processing of vocabulary definitions. Subjects were all college undergraduates and numbered 108, 112, and 34 for Experiments 1, 2, and 3, respectively, and 72 in Experiments 4 and 5. In Experiment 1, subjects were required to learn a list of 30 one- and two-syllable low frequency nouns by either one of two keyword conditions, one of three semantic processing conditions, or a control condition. Words were presented individually at the rate of one every 10 seconds, and a 30-word test followed immediately. The two keyword conditions were comparable in effectiveness and both produced better results than did the other conditions. Experiments 2 and 3 also showed that the keyword method produced greater learning than did other strategies. In Experiments 4 and 5, the keyword method, two semantic strategies, and a control condition were compared for associative and response-learning components of vocabulary learning. The keyword approach enhanced vocabulary/definition or associative learning but not definition or response learning. Semantic conditions tended to increase nonassociative learning of definitions.

ALEXANDER, PATRICIA. Externalizing performance expectations: An investigation of effects on proficient readers. *Educational and Psychological Research*, Summer 1983, *3*, 169-177.

Focuses on the impact of explicit task knowledge on the ability of proficient readers to recall relevant information. Employed 30 undergraduate students enrolled in reading methods courses in the first two of three studies. Initially investigated was the impact of an explicit, external criterion on the studying performance of subjects with criterion being defined as an expected level of performance; in the second investigation, focus was on the effects of both a realistic and an unrealistic criterion. These investigations were extended into a third experiment which involved 40 subjects to ascertain effects of presenting explicit task knowledge prior to and following study. Across all three projects, an explicit postreading criterion was demonstrated to have a significant effect on the memorial production of proficient readers.

SALEND, SPENCER; BLACKHURST, A. EDWARD; & KIFER, EDWARD. Effects of systematic reinforcement conditions on the test scores of children labeled learning and behaviorally disordered. *Measurement and Evaluation in Guidance*, July 1982, *15*, 133-140.

Assesses the effects of tangible and social reinforcement contingencies on the math, reading, and language test scores of learning and behaviorally disordered children. Subjects were 15 middle-income and 15 low-income children ranging in age from 7 to 10-3. Instruments administered were: the Word Identification Subtest of the *Woodcock Reading Test* (WRT); the Numeration, Addition, and Word Problem Subtests of the *Keymath;* and the Verbal Expression Subtest of the *Illinois Test of Psycholinguistic Abilities* (ITPA). Each child was administered the tests under three different treatment conditions: 1) no reinforcement, 2) immediate tangible reinforcement, and 3) immediate social reinforcement. Three separate multivariate, repeated measures one-way designs were used to analyze the data. Reinforcement conditions were found to be statistically superior to no-reinforcement, but no significant differences in test score means were obtained between the two reinforcement conditions. No other interactions were significant.

NOVAK, GARY, & HAMMOND, J. MARK. Self-reinforcement and descriptive praise in maintaining token economy reading performance. *Journal of Educational Psychology*, January/February 1983, *76*, 186-189.

Compares various reinforcement techniques for their effectiveness in maintaining reading problem solution of 28 fourth graders in one classroom. Children were randomly assigned to one of four treatment groups: 1) self-administration of reinforcement; 2) description of natural consequences; 3) combination (descriptive plus token); and 4) token reinforcement. The mean number of reading problems completed in the S.R.A. reading laboratory and/or Distar workbooks were computed. All four groups showed increased problem completion during the treatment period and a decline during the follow-up period. Only the combination group's gains remained intact when the tokens were withdrawn. The token-only group showed only a modest treatment increase but declined less sharply in the follow-up than did other groups.

Dixon, Peter. Plans and written directions for complex tasks. *Journal of Verbal Learning and Verbal Behavior*, February 1982, *21*, 70-84.

Addresses the question of whether action or condition information is used first in constructing a plan from written instructions. The general method of the three experiments required each subject to view a video display and operate a control panel that manipulated the display. Subjects were 20 and 13 college students in the first two experiments and 20 housewives in the third experiment. Sentences were read faster when action came first and condition information came second. This effect was found when the condition was an antecedent or a consequent of the action, when the action was in the main or subordinate clause, and when the action was performed immediately or from memory. The author concludes that these results suggest that procedural directions are organized internally around the actions to be performed, and that condition information is remembered only with respect to particular actions.

Glover, John A.; Zimmer, John W.; Filbeck, Robert W.; & Plake, Barbara S. Training students to utilize adjunct reading aids. *The Journal of General Psychology*, July 1982, *107*, 3-10.

Determines the effects of rapid feedback and points toward a course grade on identifying key words in a reading passage where objectives had been specified. Subjects were 60 undergraduate volunteers enrolled in a basic educational psychology course. Essays written at 10th-grade level and varying in lengths were preceded by five analysis level objectives and followed by a 10-item multiple-choice test: five items were keyed directly to the objectives and five were not relevant to the objectives. Subjects were randomly assigned to one of four treatments: control; rapid feedback, where templates of key words were distributed immediately after the reading and underlining episodes; feedback plus points toward their next course examination; and points only, where students could obtain points by improving on their percentage of correct underlining. Results were scored in several ways: correct underlining, extraneous underlining, and numbers of correct responses to intentional and to incidental posttest items. Significant differences were noted between the groups on all but the incidental item posttest scores. Feedback and feedback plus points conditions obtained significantly higher scores than the other conditions. Post hoc conditions between feedback and feedback plus points conditions indicated no significant differences over the 10-day period.

Lott, Gerald W. The effect of inquiry teaching and advance organizers upon student outcomes in science education. *Journal of Research in Science Teaching*, May 1983, *20*, 437-451.

Reports a meta-analysis of 39 studies from 1957-1980 on the use of advance organizers and on a comparison of inductive versus deductive teaching. Studies were coded on 128 characteristics. Methodology, sample characteristics, and instructional experiences were examined quantitatively in terms of their relation to the treatment effects. Effect sizes were computed across the levels of each descriptive variable for each of the two research areas. Inductive approaches seem to be most appropriate at the intermediate level, and to be more useful in situations where high levels of thought, learning experiences, and outcome demands were placed upon the subjects. The efficacy of advance organizers was explored by analyzing 147 effect sizes from 16 studies. Enough data for analysis was found for only two treatment characteristics: style of advance organizer and characteristics of materials. Advance organizers seemed to be more advantageous for urban settings than for rural or suburban contexts. Little effect was found for grade level, style of organizer, or characteristics of materials. There was little variation in treatment or outcome characteristics across studies.

Raphael, Taffy E.; Winograd, Peter; & Pearson, P. David. Strategies children use in answering questions. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 56-63.

Investigates the differences between good and poor readers in the strategies they use to answer comprehension questions. Subjects (n = 240) were fourth, sixth, and eighth grade pupils, who were classified as high or low ability readers on the basis of reading comprehension scores on the *Iowa Test of Basic Skills.* Two passages were selected at each grade level, one familiar and one unfamiliar, at an appropriate readability level. Each passage was followed by 18 comprehension questions, some of which were 'biased' (with 'do you think' embedded) and some unbiased. After a training session, pupils either read one of the stories and then rated the questions as being text explicit, text implicit, or script implicit, or vice versa. Pupils then answered the questions. Answers were scored as text-based, anaphoric (synonymous with the text), script-based (from the reader's knowledge base), and unscorable. Significant results are reported in tabular form. It is concluded that question type influences the type of response given, and that children are sensitive to differences between types of questions. It is noted that good readers gave more responses that were consistent with their predictions than poor readers, but that the relationship between task awareness and task performance is undetermined.

Nicholson, Tom, & Imlach, Robert. Where do their answers come from? A study of the inferences which children make when answering questions about narrative stories. *Journal of Reading Behavior,* Summer 1981, *13,* 111-129.

Examines the relative influence of text data and prior knowledge on children's inferences when answering questions about narrative stories. Two experiments were conducted, with 80 eight-year-old children as the subjects of Experiment 1 and 44 eight-year-olds in Experiment 2. All subjects were average or above average readers. In Experiment 1, six 200 word stories varying in degree of familiarity were presented in one of nine conditions in which the text structure was obtained by embedding predictable and unpredictable reasons for events, by varying the distance of these reasons from the event and by varying the position of the reason before or after the event. Subjects were randomly assigned to read silently, each of the six stories in one of the nine conditions and answer three questions for each story read, with half the subjects allowed to look back at the story while answering questions and half not allowed to look back. Experiment 2 was similar but used only two more familiar and two less familiar stories, subjects were not allowed to look back at the story and a causal preference factor was added by systematically embedding into the question external and internal courses for the event. Internal causes are described as the motives of the subject of the story, external causes were the influences of other characters in the study that might have caused the target event. The results provide support for the notion that text data and prior knowledge compete for priority in answering inference questions. Concludes that children should be taught to arbitrate between competing explanations for important text events.

Wixson, Karen K. Questions about a text: What you ask about is what children learn. *The Reading Teacher,* December 1983, *37,* 287-293.

Reviews finding of two research studies by the author, one published and one in press, indicating that children's learning from text varies as a function of the interaction among reader, text, and question. In the first study, 111 average and above average readers in grade five read a short passage and then wrote responses to six questions which were either textually explicit (TE), textually implicit (TI), scriptually implicit (SI), or text irrelevant (control). Pupils were asked for a written free recall of the passage one week later. For the immediate response, TE questions promoted verbatim reproduction of the text, TI questions resulted in children's giving text-based inferences, and SI questions led to the production of inferences based on prior knowledge. For recall, TE questions produced fewer inferences than did TI or SI; other results were similar to the immediate response findings. In the second study, 172 fifth graders, of average or better reading ability, read a short expository passage and wrote responses to five questions written at one of three levels of importance or about text irrelevant information. Both TE and TI questions were included. A free recall of the passage and responses to the questions were written one week later. There was greater rate of recall for directly questioned information than for any other passage information, irrespective of level of importance. Analysis of answers to questions at recall also supported this finding.

MEMORY, DAVID M. Main idea prequestions as adjunct aids with good and low-average middle grade readers. *Journal of Reading Behavior,* 1983, *15*(2), 37-48.

Explores the usefulness of a technique for helping 48 low-average and 48 good sixth-grade readers understand the main ideas of cause-effect passages in science and social studies textbooks and answer questions about those passages. Experimental group pupils received "why" prequestions during three 30-minute practice sessions and the first testing session; control group pupils received no adjunct aid. All pupils answered multiple-choice main idea and literal posttest questions after reading the four test passages. For the literal questions, there was a main effect for ability ($p < .001$) but not significant interaction effects. For the main idea questions, the only significant effect was for the three-way interaction ($p < .001$). A follow-up repeated measures analysis of variance revealed no significant main effect for practice or testing, and no significant interaction. For low-average readers, however, there was a significant interaction. Explorations of the nature of the interaction suggested a significant effect due to type of practice at the first level of testing; low-average readers who had practiced with "why" prequestions and had been given prequestions as aids performed better. Prequestions had little effect on good readers.

MCKENNA, MICHAEL C.; & MILLER, JOHN W. The effects of age and distractor type on maze performance. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 288-291.

Investigates the differential effects of distractor type on the maze performance of third- and sixth-grade pupils. Subjects ($n = 40$) were reading at or above grade level, on the basis of the reading comprehension subtest of the *California Achievement Test.* Passages at the appropriate reading level were administered as a maze task with every fifth word deleted. Each item required a choice between a single distractor and the correct answer. Distractors were either graphically similar, same form class (GS-SFC); graphically similar, different form class (GS-DFC); graphically different, same form class (GD-SFC); or graphically different, different form class (GD-DFC). The number of correct responses was the dependent measure. There was a main effect of age ($p < .05$), but not of distractor type. An interaction effect of age and distractor type ($p < .05$) was due to differences between third graders' scores in relation to form class, as well as sixth graders' higher scores on all distractor types.

HOLLIDAY, WILLIAM G. Overprompting science students using adjunct study questions. *Journal of Research in Science Teaching,* March 1983, *20,* 195-201.

Investigates the hypothesis that 10th-grade students with strong prompts to the answers of comprehension questions (adjuncts to a flow diagram) would comprehend less than students provided with no-prompt conditions, that a flow diagram only (no adjunct questions) treatment group would outperform a strongly prompted treatment group, and that all treatment groups would outperform a placebo-control group. Groups studied different learning materials and responded to a 30-question multiple-choice posttest. The three treatment groups were provided with a picture-word diagram. The unprompted-question group received the diagram and 20 adjunct questions. The prompted-question group received the same materials with the prompts in the diagram. The no-question group had no prompts or adjunct questions. Although an analysis of variance revealed significant differences among the four groups, a Newman-Keuls multiple range procedure failed to confirm the predicted descending order among treatment means.

SCHUMACHER, GARY M.; MOSES, JOHN D.; & YOUNG, DANIEL. The impact of inserted questions. *Journal of Reading Behavior,* 1983, *15,*(2), 19-36.

Reports two studies which assess the effects of inserted questions on student reading performance and comprehension. In study one, 36 undergraduate volunteers enrolled in an introductory psychology course read a portion of their textbook under one of two conditions, with or without inserted questions. Comprehension was assessed through a 10-item multiple-choice test. Subjects' reading behaviors were monitored via video tape and analyzed as to number of relevant or incidental lookbacks. Analyses of variance noted significant differences favoring the question group in the number of relevant and incidental lookbacks, but no significant differences between groups in time on passage, proportion of relevant words underlined, or test performance. In study two, the basic procedures used in study one were replicated with 54 fifth-grade pupils. In addition, pupils were classified on general reading ability to permit an analysis of aptitude-treatment interaction. Significant differences between groups were found only for incidental lookbacks, with the question group making a higher number of them. No significant differences were found for test performance or aptitude-treatment interactions.

HARTLEY, J., & TRUEMAN, M. The effects of headings in text on recall, search, and retrieval. *British Journal of Educational Psychology,* June 1983, *53,* 205-214.

Reports a series of nine experiments which assessed the effects headings had on reading comprehension. Three main variables were manipulated: 1) type of heading (question versus statement); 2) position of heading (marginal placement versus embedded in text; and 3) reading purpose (recall, retrieval from familiar text, or retrieval from unfamiliar text). Recall was assessed with a 12-item short answer test and retrieval was gauged by time needed to complete the search. Subjects were 14- and 15-year-old British students. Findings showed that headings significantly aided recall and retrieval. However, no significant differences were noted for type of heading or position of heading.

TERRY, WILLIAM SCOTT. Recognition of sentences from text after massed vs spaced readings. *The Journal of General Psychology,* July 1983, *109,* 67-71.

Reveals that 48 male and female college students enrolled in courses in general psychology read two 600-word prose passages, and then were tested for recognition of the original sentences, paraphrases, and distractor sentences. The recognition tests consisted of a set of 21 sentences from each passage, seven in each set being verbatim from the passage. In different groups, a target passage was read once, or twice with the readings being immediately successive (massed), or separated by an intervening reading (spaced). Subjects showed more recognition of verbatim than paraphrased and distractor sentences. Massed repetition increased recognition scores of verbatim sentences relative to either spaced repetition or a single reading of the target passage. Spaced repetition decreased (false) recognition of paraphrases as compared to the other two conditions. Overall, two readings of the text improved the verbatim paraphrase discrimination.

FINLEY, FRED N. Students' recall from science text. *Journal of Research in Science Teaching,* March 1983, *20,* 247-259.

Assesses what 38 grade 11 physics students recalled from reading expository text about energy transfer. Students' recalls were tape recorded and analyzed to identify the propositions. Using cluster analysis, students were then classified to identify those who were similar in the propositions they recalled. Iterative relocation procedures verified the stability of the initial clusters. Four clusters were identified, with each cluster recalling different sets of propositions and different empirical events. While students recalled conceptually coherent sets of propositions, the propositions were not organized around the main theme of the text. Substantial numbers of propositions were recalled as being in the text when they were not, although they were related to those in the text.

VAN DAM, GERRIT, & BRINKERINK-CARLIER, MICHÉLE. THE INFLUENCE OF EXTENSION OF TEXT SIZE ON FREE RECALL. *The Journal of General Psychology*, OCTOBER 1983, *109*, 219-231.

Studies the influence of the extension of the size of a text on free recall. The learning material was a 422-word narrative text, written in Dutch, comprised of a series of 10 scenes or separate chunks of information. In addition to the 10-scene text which contained 95 idea units (IUs), three other versions were written: 1) Version 10L, extended by adding details to 185 IUs; 2) Version 20S, extended by 10 scenes for a total of 185 IUs; and 3) Version 20L, a combination of the other two versions with a total of 365 IUs. Fifty-two Dutch university students participated in the experiment: 13 in each of the four conditions. An oral free-recall test was administered at both short-term and one-week delayed intervals; a 13-item multiple choice test was also given. When the time available for studying the text was fixed, increasing the number of constituent scenes or increasing the size of these units appeared not to influence the total number of reproduced information. However, these two methods of extension of the learning material had a different effect on the composition of the resulting reproductions. The results of a second experiment, in which the study times were adjusted to the length of the learning material, suggested that subjects tend to process information from texts up to some individual standard amount. When this point is reached, further extension of the text seems to result in a mere redistribution of the recalled information over the actually studied text.

KOSKINEN, PATRICIA S., & GAMBRELL, LINDA B. The effects of an induced visual imagery strategy upon the reading comprehension of below average readers. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 22-27.

Investigates whether visual imagery instruction is differentially effective in terms of reading comprehension for pupils of different vocabulary levels. Subjects were 72 sixth graders whose reading comprehension scores were between the 4th and 39th percentile, and who scored at or above the 4th percentile, on the *Iowa Test of Basic Skills.* In addition, they scored within one standard deviation of the mean on the*Cognitive Abilities Test.* Subjects in the experimental group received 20 minutes visual imagery training with materials designed for that purpose, while the control group used the same materials with nonvisual imagery instruction. The children were tested on two 950-word stories at a third grade readability level. The first story and 20 literal and inferential comprehension questions were administered immediately following training. A week later, the same questions were re-administered, plus a second story and second set of questions. There were no significant effects of treatment, sex, or level of question, and no other significant effects are reported.

WALTER, DONALD A., & FOX, DANIEL. The role of perceptual and semantic elaboration in high- and low-imagery sentence recall. *Memory & Cognition*, November 1981, *9*, 625-630.

Examines the roles of perceptual and semantic elaboration models by studying the effects of sentence imagery on recall in two experiments. All subjects were college students. In Experiment 1 short-term memory of high- and low-imagery sentences to which subjects had generated word associations was measured. The number of associates generated did not differ for the two types of sentences, but the rated imagery of the words associated with high image sentences was higher. The authors conclude that this finding is in keeping with the perceptual elaboration model. In the second study, recall was investigated by using the associates generated to high- and low-imagery were found for high-imagery sentence recall. The authors concluded that perceptual codes are partly responsible for high-imagery sentence recall.

Cole, Pamela M., & Newcombe, Nora. Interference effects of verbal and imaginal strategies for resisting distraction on children's verbal and visual recognition memory. *Child Development*, February 1983, *54*, 42-50.

Examines the effects of verbal and imaginal strategies on second graders' attentional control and performance on verbal and pictorial tasks. Subjects were 54 children randomly assigned to six experimental groups. The six experimental conditions were: two same-model conditions (picture task/imaginal strategy and story task/verbal strategy), two cross-modal conditions (picture task/verbal strategy and story task/imaginal strategy), and two no-strategy control conditions. An additional 12 children were included as no-distraction control subjects to ascertain picture and story task performance without the presence of distraction. Children were presented with either a picture or a reading task and instructions eliciting either verbal or imaginal study strategies. They were then left alone and told to complete the task even though a distractor in the form of a talking box was present. Eight distractions occurred, the experimenter returned and presented a child with a recognition task and a series of questions about their behavior. Children were videotaped and resistance to distraction (attentional control) and time on task were determined. Picture task/imaginal strategy and verbal task/verbal strategy combinations gave more errors than control conditions, while picture task/verbal strategy and verbal task/imaginal strategy conditions resulted in a smaller number of errors than control conditions. Time on task was significantly increased by both strategies for both tasks.

Kulhavy, Raymond W.; Schwartz, Neil H.; & Shaha, Steven H. Interpretative framework and memory for map features. *The American Cartographer*, October 1982, *9*, 141-147.

Studies the degree to which an interpretive framework in the form of a street grid affects both feature and position memory. Two experiments, using 24 and 54 undergraduates, are reported. Subjects studied a map that was varied in both grid structure and the conceptual similarity of its features. Subjects in Experiment 1 who studied the map with a grid remembered fewer features than did those in the no-grid condition; however, the former were more accurate in locating more features that they did recall. In the second experiment, subjects who saw features in a conceptual sequence were more likely to utilize that sequence to organize their recall, but the sequence of feature presentation had no significant effect on the spatial accuracy with which map elements were remembered.

Kulhavy, Raymond W.; Schwartz, Neil H.; & Shaha, Steven H. Spatial representation of maps. *American Journal of Psychology*, Fall 1983, *96*, 337-351.

Views how people remember information contained in a reference map in two experiments testing the hypothesis that the cognitive representation of spatial relations on a map is primarily a visually keyed process. Undergraduates numbering 74 and 112 were employed in the two experiments. In Experiment 1, 24 subjects each were randomly assigned to one of three conditions: map with labels only, labels plus mimetic drawings, or labels plus geometric symbols. Subjects studied their map for four minutes, worked on an arithmetic task for one minute, and then received a cued recall map test. Additionally, they were to rate their degree of confidence on the accuracy of their responses. In Experiment 2, subjects were randomly assigned to two experimental conditions, differing only in the size of the map studied. One group saw a full-scale version, and the other group, a photoreduced replica. Other aspects were similar to Experiment 1. For Experiment 1, cued recall data indicated that discrete features are best located when they are semantically congruent with the label referent. For both experiments, judgment X distance estimates were highly correlated, suggesting that there is a correspondence between image distances and the original stimulus metric.

Alesandrini, Kathryn Lutz, & Rigney, Joseph W. Pictorial presentation and review strategies in science learning. *Journal of Research in Science Teaching*, September 1981, *18*, 465-474.

Tests the effects of pictorial learning tasks and pictorial review tasks on the learning of specific science concepts. In Experiment one, 96 undergraduate students were taught the concepts of electrochemistory relevant to a battery by either an all verbal method or by a verbal-pictorial method followed by either pictorial practice or no practice. Learning was tested by both a pictorial test and a verbal test. Attitudes towards the teaching methods were also assessed. Time-on-learning was the same for all groups. On the pictorial posttest, the scores of the pictorial presentation-pictorial practice were significantly higher; however, there was no difference between the four groups on the verbal posttest. Further, the most preferred presentation made was the pictorial presentation-pictorial practice. There were 50 undergraduate students serving as subjects in Experiment 2. Materials and procedures were the same as in Experiment 1, but there were only two groups: verbal presentation-rereading and verbal presentation-pictorial review. The same posttests were used plus an expanded version of the verbal test. Again, time-on-task was equivalent for both groups. The results were similar to those of Experiment 1; the pictorial review condition resulted in significantly higher scores on the pictorial posttest, but not on either of the verbal posttests.

Donald, D.R. The use and value of illustrations as contextual information for readers at different progress and developmental levels. *British Journal of Educational Psychology*, June 1983, *53*, 175-185.

Investigates the effect of illustrations on the oral reading comprehension of good and poor readers. Subjects were 120 children in grades 1, 3, and 5, matched for reading age (7 and 9), progress level, and socioeconomic status. Children read orally either an illustrated or non-illustrated version from one of three narrative passages and then answered five comprehension questions. Reading was scored for word identification accuracy, semantic acceptability of errors, orthographic acceptability, literal comprehension, and inferential comprehension. Illustrations significantly improved accuracy at Reading Age (RA) 7 but not at RA 9. At RA 7, illustrations significantly improved semantic acceptability for good readers but not for poor readers, or for good readers at RA 9. Reading with illustrations reduced the use of orthographic information regardless of RA or progress level. Literal comprehension was significantly better for poor readers at RA 9 and for good readers at RA 7 but not for good readers at RA 9. No significant effects were found for inferential comprehension.

Levin, Joel R. On functions of pictures in prose. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading*. New York: Academic Press, 1981, 203-228.

Reviews research on learning from illustrated prose and on the effect of visual imagery instructions, in order to construct a conceptual framework which describes the functions of pictures in illustrated text. The eight functions outlined are decoration, remuneration, motivation, reiteration, representation, organization, interpretations, and transformation. The last three functions are argued to make the most contribution to improved prose learning.

Goldstein, Alvin G.; Bailis, Karen; & Chance, June E. Do students remember pictures in psychology textbooks? *Teaching of Psychology*, February 1983, *10*, 23-26.

Ponders whether recognition memory performance for pictures encountered in a textbook matches the accuracy observed in a laboratory situation and speculates on the educational value of text pictures. Performances of 47 subjects recruited from an introductory psychology course utilizing a specified text were compared with 56 who did not use the identical text. Subjects viewed illustrations from all 16 chapters of the required text plus illustrations from 10 other psychology texts and were to decide if the pictures were old or new. Examined were hit rate, false alarm rate, and d′ scores (a composite score calculated from hits and false alarms and assumed to be independent of guessing). Pictures in the textbook were remembered and retained at well above chance levels for substantial time periods.

Pressley, Michael; Levin, Joel R.; Piggott, Susan; LeComte, Mary; & Hope, D.J. Mismatched pictures and children's prose learning. *Education Communication and Technology Journal*, Fall 1983, *31*, 131-143.

Cites a series of experiments studying the effects of mismatched pictures on children's prose learning. In Experiment 1, 48 second graders and 60 third graders were randomly assigned to three conditions: matched-picture, mismatched-picture, and text only. Two lists of 33 concrete sentences each were prepared. In the matched-picture condition, children saw pictures which illustrated the content of the sentences. In the mismatched-picture condition, subjects saw illustrations of sentences from the list they did not receive. Questions, formulated for each sentence, were presented after the sentences. Mean percentage of correctly recalled information was 77.4%, 38.8%, and 43%, respectively, for matched-picture, mismatched-picture, and text-only second graders; at grade three, the percentages were 77.1%, 57.1%, and 51.5%, respectively. The presence of mismatched-pictures did not detract from the recall of text content. In Experiment 2 (42 grade two and 54 grade three children), findings indicated that mismatched-picture subjects who were instructed to remember the text could remember the text better than children not given explicit instructions and could remember the picture content as well as nonexplicitly instructed subjects. All the first three experiments gave little evidence that mismatched-pictures reduced children's cued recall of orally presented text. Additional experiments supported the conclusion that pictures mismatched with prose content are unlikely to reduce children's prose recall substantially. The presence of text-relevant pictures will help improve recall when recall of prose content is required.

Goldstein, Ralph, & Underwood, Geoffrey. The influence of pictures on the derivation of meaning from children's reading materials. *Journal of Research in Reading*, February 1982, *4*, 6-16.

Reviews research concerning the effect of illustrations in text upon learning to read and comprehension. Some of the functions that pictures may serve are outlined. It is concluded illustrations have relatively more influence on the comprehension of younger and/or less able readers.

Harber, Jean R. The effects of illustrations on the reading performance of learning disabled and normal children. *Learning Disability Quarterly*, Winter 1983, *6*, 55-60.

Investigates the differences in the reading performance of learning disabled and normal children when reading a text with and without illustrations. The subjects were normally achieving second graders (n = 24) and children identified as learning disabled from grades two (n = 15), three (n = 22), and four (n = 15). The reading recognition and comprehension subtests of the *Peabody Individual Achievement Test* was used to assign subjects to high, middle, and low reading groups. Passages and questions from the *Gray Oral Reading Test* were administered with no illustrations, complete black-and-white line drawings, and partial black-and-white line drawings. Each subject progressed from level to level in the test until comprehension fell at or below 50%. Illustrations had a beneficial effect on normally achieving readers performance ($p < .05$) but a detrimental effect on the performance of learning disabled children ($p < .001$). Illustrations were more detrimental to learning disabled subjects, and more beneficial to normal children, in the middle and high reading groups.

HAYES, DAVID A., & READENCE, JOHN E. Transfer of learning from illustration-dependent text. *Journal of Educational Research*, March/April 1983, *76*, 245-248.

Investigates the use of illustrations in relation to text characteristics and different instructional conditions. Subjects were seventh-grade average or better readers ($N = 108$). Four passages of 300 words each were selected from illustrated texts designed for use with middle-grade pupils as 1) highly illustration dependent, 2) moderately illustration dependent, 3) slightly illustration dependent, and 4) independent, on the basis of a pilot study. Additional 150-word transfer passages were provided for each text based on concepts in the main text. Subjects read the passages under four conditions: a) text alone, b) text with illustrations, c) text with illustrations, and instructions to attend to the latter, and d) text alone, with instructions to imagine their own pictures. Subjects were asked to recall (in writing) the transfer texts after each presentation. Recalls were scored against a propositionalization of the transfer texts and coded as either text-based information, or reader-based inference. Main effects were obscured for treatment conditions in overall recall, and in proportion of reader-based information in recall ($p < .001$) and significant interactions between treatment condition and level of illustration dependence ($p < .01$). Readers recalled more from illustrated than non-illustrated text, but instructions to image or look at the illustrations had no effect.

READENCE, JOHN E., & MOORE, DAVID W. A meta-analytic review of the effect of adjunct pictures on reading comprehension. *Psychology in the Schools*, 1981, *18*(3), 218-224.

Conducts a meta-analysis of studies investigating the effect of pictures on prose comprehension. A small positive overall effect is reported, along with greater facilitation from line drawings over shaded drawings and photographs, and from color pictures over black and white. Only a slight difference was found between immediate posttest and delayed posttest facilitation.

MOORE, DAVID W., & READENCE, JOHN E. A meta-analysis of the effect of graphic organizers on learning from text. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 213-218.

Utilizes the technique of meta-analysis to examine the effect of graphic organizers on learning from text. Sixteen studies were analyzed, providing 92 measures of association based on approximately 2,098 subjects. A small measure of association between treatment with a graphic organizer and subsequent learning from text was found. Supplemented treatments, differing lengths of treatment, the time of assessment, and the source of test content did not alter the effect of graphic organizers. Tendencies toward relative advantages were noted when subjects constructed graphic organizers as a post-reading activity, and when vocabulary was the criterion variable. It is suggested that subjects with high verbal ability may benefit most from this activity, and that it is best suited to expository passages.

ALVERMANN, DONNA E. The compensatory effect of graphic organizers on descriptive text. *Journal of Educational Research*, September/October 1981, *75*, 44-48.

Investigates the use of graphic organizers to compensate for text which was regarded as being less than optimal in its organization. Tenth graders (n = 114) read two versions of an expository passage that differed only in structure (comparison versus description). Students were assigned to four groups by stratified random assignment and by literal comprehension scores on the *Stanford Diagnostic Reading Test;* the four groups were randomly assigned to treatment conditions: graphic organizer/comparison, graphic organizer/description, and two control conditions with no organizers. Both experimental groups studied a graphic organizer which had been constructed to reflect the comparison text structure. Students exposed to graphic organizers recalled more than did controls under the descriptive text condition for both immediate and one-week delayed recall measures. No significant interaction occurred between graphic organizer instruction and reading comprehension level. All students involved, regardless of reading level, benefited from the use of graphic organizers.

KROHN, GREGORY S. Flowcharts used for procedural instructions. *Human Factors*, October 1983, *25*, 573-481.

Evaluates the effect on subject performance during a problem-solving task of flowcharts and the number of alternatives leading from decision boxes. Sixty-four undergraduate psychology students were assigned to one of eight groups. Two types of flowcharts were investigated: binary and multiple-alternative. Problem complexity was also investigated. Subjects used variations of binary and multiple-alternative flowcharts or prose written in paragraphs to solve problems. Dependent measures were incorrect problem solutions, viewing time, and solution time. Overall findings indicated that performance was affected by directional orientation but not by the number of alternatives. Groups using left-to-right flowcharts made significantly fewer errors and used significantly less time to view the format and to solve problems than did groups using right-to-left flowcharts.

WRIGHT, PATRICIA. A user-oriented approach to the design of tables and flowcharts. In David H. Jonassen (Ed.) *The Technology of Text: Principles for Structuring, Designing, and Displaying Text.* Englewood Cliffs, N.J.: Educational Technology Publications, 1982, 317-340.

Reviews research on learning from tables and flowcharts in order to evaluate some of the design choices available when presenting information in this way. Conclusions are reached that the nature of the data, the expected readers, and the printing production system are constraining factors which affect design decisions, and research can only suggest certain principles which may be helpful.

WRIGHT, PATRICIA. Tables in text: The subskills needed for reading formatted information. In L. John Chapman (Ed.) *The Reader and the Text.* London: Heinemann Educational Books Ltd., 1981, 60-69.

Reviews selected research on readers' ability to use tables in text. The subskills required are addressed under the headings: 1) knowing how to understand the formatting principle; 2) knowing how to locate the information needed; and 3) knowing how to interpret the information found. Research relevant to the similarities between reading tables and other kinds of reading is discussed.

TESTIN, FRANK J., & DEWAR, ROBERT E. Divided attention in a reaction time index of traffic sign perception. *Ergonomics*, February 1981, *24*, 111-124.

Examines the effects diverting subjects' attention when they are identifying traffic sign messages in a laboratory situation. Subjects were 48 paid college students. The dependent variables were reaction time, and number of errors in identifying 16 traffic sign messages projected onto a screen. The experimental group performed certain distracting tasks either before the traffic sign was projected or while the traffic sign was projected. These included detecting, identifying, or remembering a number matrix stimulus. The control group performed none of the distraction tasks. The reaction times to the 16 traffic signs were correlated with the legibility distances of the same signs measured in a previous roadway experiment. It was also found that the diversion tasks did not increase the validity of the reaction time measure.

GERBER, MARILEN J.P., & WHITE, Donna ROMANO. Verbal factors in visual recognition memory of poor readers. *Perceptual and Motor Skills*, December 1983, *57*, 851-857.

Examines the role of four verbal factors (knowledge of names of letters and shapes, latency to label production, and verbal mediational strategies) in visual learning and recognition of 36 good and poor second- and third-grade male readers, all with normal intelligence. Subjects studied three sets of paired-associates where pictorial stimuli from the *Peabody Picture Vocabulary Test* were paired with letters, geometrics, and abstract shapes. All subjects received each of the three sets in counterbalanced order. Labeling ability was assessed by asking each subject to generate names as quickly as possible to each picture, letter, or shape, and mediational strategies were identified by asking each subject how the letters and shapes were remembered and by observing. All children were similar in ability to label stimuli; no significant differences were found in latency to name stimuli, although times for types were significantly different. No significant differences were found for good and poor readers on whether they whispered or rehearsed spontaneously, or on reportings of verbal strategies for learning paired-associate sets. Performance of poor readers was significantly lower than good readers on all paired-associate sets, although there were no significant differences between tasks or any significant interactions between reader groups, tasks, or orders.

LACHMAN, SHELDON, J., & FORSBERG, LINDA K. Word recognition and word recall. *Psychological Reports*, August 1981, *49*, 163-179.

Compares the relation of recall and recognition performance. Subjects were 153 college students. Each subject completed three tasks: a 20 item, orally presented spelling test; a recall test in which subjects recalled as many of the 20 words as they could; and a recognition test in which they were to select from 100 words the 20 words on the spelling test. Subjects were not informed before the spelling test of the recall and recognition tests. Mean recognition score was 13.8; mean recall score was 7.6. For 152 of the 153 subjects, the recognition score was higher. The correlation coefficient between recognition and recall was .83.

LIU, IN-MAO, & WU, JEI-TUN. Immediate and continuous processing of words in sentence comprehension. *Bulletin of the Psychonomic Society*, January 1984, *22*, 19-22.

Conducts a study to test whether the immediate-processing or continuous-processing model holds in reading. Subjects were 30 undergraduates at National Taiwan University who were presented with a sentence-sentence verification and a sentence-picture verification task. Subjects saw Sentence 1, then Sentence 2, then Verification Sentence 1, then a picture for verification of Sentence 2. There were five types of Verification-sentence 1. False sentences were found by replacing the subject, verb, or object. It was found that when a sentence-sentence verification task was used, a previous word received further processing when a following word was encountered.

DREHER, MARIAM JEAN, & SINGER, HARRY. The validity of the instantiation hypothesis. *Journal of Reading Behavior*, Fall 1981, *13*, 223-235.

Studies the developmental aspects of the instantiation hypothesis. In an earlier study, it was found that fifth, sixth, and eighth grade children were able to instantiate when asked to, but unlike mature readers they were not able to do so spontaneously. It was postulated that these results represent a point on a developmental trajectory toward spontaneous instantiation. The subjects in the two experiments of this study were 97 college students. They read the same sentences in the same conditions that had been used for the study with children. In Experiment 1, subjects studied pairs of sentences designed either to lead or not to lead to an instantiation, performed an interpolated task, and then recalled the final word of each of the sentences in response to a cue that was either a general cue relating to the subject noun of the sentence or a specific cue representing the expected instantiation of the subject noun. Experiment 2 was similar in design and materials, except that a third sentence was added which was constructed by replacing the subject noun with the expected instantiation, and subjects had to recall the entire sentence, not just the last word. With both sets of sentences, subjects instantiated, confirming the validity of the instantiation hypothesis with mature readers.

FOOS, PAUL W. Searching memory for congruent or incongruent information. *Journal of Verbal Learning and Verbal Behavior,* February 1982, *21*, 108-117.

Uses congruent and incongruent sentences to test two models—the search and the integration hypotheses—designed to clarify the acquisition of spatial knowledge and the processing of locative and comparative sentences. Subjects in the two experiments were college students (n = 21, 18). In Experiment 1, subjects memorized a layout of a town and then were presented sentences tachistoscopically. The sentences presented new or old information regarding the memorized layout, and the information was congruent or incongruent with the layout. Before reading the sentences, subjects were presented with the name of the information to be processed, and that information was old or new; or were not told at all. After reading the sentence, subjects were told to draw the entire town. Time to study each sentence and number of errors in the new layout were the dependent variables. Congruent sentences were processed more rapidly and with fewer errors, than incongruent sentences. Sentence processing did not differ as a function of whether the preceding information was old or new. There was a significant interaction between the preceding item and sentence type, however. When the noun of the new to-be-presented information preceded the sentence, the congruent-incongruent difference was found. When the noun of old to-be-presented information preceded the sentence, the congruent-incongruent difference was eliminated. Experiment 2 was very similar to Experiment 1, but contained more information about the three towns instead of one. The findings replicated Experiment 1. The authors conclude that the source of the congruent-incongruent difference is in the searching of memory for information matching new input, not the integration of new information.

DEYOUNG, TED, & WALLER, T. GARY. Piagetian operative competence and learning to read. *Educational and Psychological Research,* Fall 1983, *3*, 189-202.

Examines the relationship between early reading and performance on four major domains of Piagetian tasks: conservation, seriation, classification, and perceptual decentering. Subjects were 20 grade one pupils and 20 kindergarten pupils, with equal numbers of readers and nonreaders at each grade. Within each grade level, readers and nonreaders were matched for age, sex, and IQ. Each subject was administered sections of the *Metropolitan Achievement Test*, the *Peabody Picture Vocabulary Test*, and a Piagetian battery. An analysis of variance revealed that readers scored higher than nonreaders on conservation, seriation, and classification tasks but not on perceptual performance.

IV-6 Visual perception

MELTZER, LYNN J. Visual perception: Stage one of a long-term investigation into cognitive components of achievement. *British Journal of Educational Psychology,* June 1982, *52,* 144-154.

Seeks to develop a set of visual perceptual measures useful for diagnostic purposes. In the first phase of the study, a set of 19 visual perceptual tasks were assembled and administered to 123 white South African children ranging in age from 6 to 8. The tasks included three levels of perception: non-verbal/non-meaningful (geometric forms), non-verbal/meaningful (pictures of familiar objects), and verbal/non-meaningful (nonsense syllables). After an item analysis was done, 243 children were tested, and a factor analysis done on the results. Three factors emerged: visual synthesis, visual analysis, and perceptual speed. For the third phase of the study, regression analysis was applied in order to assess the relationships between the visual perceptual measures, reading, and arithmetic. For this phase, 12 six-to-eight-year-olds were tested on measures of reading accuracy, reading rate, oral reading comprehension, silent reading comprehension, arithmetic computation, and arithmetic application. Discrimination and analysis were more important for reading achievement at the youngest age level, and memory and higher-order synthesis more relevant at the older age level.

BIEGER, ELAINE. Effects of two different training programs on visual discrimination of nonreaders. *Perceptual and Motor Skills,* June 1983, *56,* 1009-1010.

Determines the level of effectiveness of two systems for improving visual discrimination of words with 52 inner-city second graders identified as nonreaders with visual discrimination difficulties. Children were randomly assigned to one of four treatment groups: three groups used part-whole training or spatial distance training or a combination; one group used commercially made word-matching exercises. Training programs were completed in 18 sessions of 15 minutes each. Alternate forms of the *Bieger Test of Visual Discrimination* were administered as pretests and posttests. The three groups using specific scanning strategies of part-whole training and spatial distance training were essentially equal in their achievement of visual discrimination skills and scored higher than the other group. Eleven of the 39 children, however, still had difficulty in visual discrimination of words at the posttest. Of those using word-matching exercises, 8 out of 13 still had difficulties at posttest time.

RIDING, R.J., & PUGH, J.C. Visual performance and reading in seven and eleven year old children. *Journal of Research in Reading,* February 1981, *18,* 17-28.

Compares the relationship between a selected visual skill (dark-interval threshold) and reading accuracy and reading comprehension for 7- and 11-year-old children. To determine dark-interval threshold, subjects viewed a white disc on a black background. The experimenter then switched to a second all black field. Subjects reported whether or not the disc disappeared. The shortest dark interval for which a subject reported that the disc disappeared was used to determine dark interval threshold. Reading was assessed with the *Neale Analysis of Reading Ability.* Results showed that thresholds decreased with age and are generally higher for girls than for boys. When the children were classified into short, moderate, and long dark-interval threshold groups, it was found that girls in the moderate group had significantly higher reading performance than girls in the low and high groups at both the 7- and 11-year-old age groups. The same finding held true for boys in the 11-year-old group but not the 7-year-old group.

WHITSON, GEORGE T., & HOGAN, JOHN D. Reading effectiveness: A comparison of a Piagetian versus a perceptual model. *Reading Improvement,* Summer 1983, *20,* 125-129.

Investigates the importance of cognitive versus visual perceptual factors in word recognition and reading comprehension skills. Subjects were 120 second grade boys. Measures administered included the *Motor Free Visual Perception Test;* the *Southern Illinois University Test* (SIUT), a measure of Piaget's concept of classification; the Reading Subtest of the *Wide Range Achievement Test* (WRAT); and the *Gates-MacGinitie Reading Test.* A hierarchical multiple regression correlation was used in treating the data. A significant positive coefficient was found between the SIUT scores and performance on the four reading measures (WRAT; Gates Vocabulary, Comprehension, and Total). No significant relation was noted between the visual perception score and reading scores.

SUPRAMANIAM, SARADHA. Proofreading errors in good and poor readers. *Journal of Experimental Psychology*, August 1983, *36*, 68-80.

Views variation in the patterns among proofreading errors made by good versus poor readers. The 58 children, aged 8-9 years, were from a British primary school and were administered the *Primary Mental Abilities Test* (PMA) and the *National Foundation for Education Research Reading Test* (NFER). From the original group, 10 good and 10 poor readers were identified who were matched on sex and PMA scores. Children were presented two passages, one easy and one difficult, in which 12 and 20 misspellings, respectively, were inserted. Misspellings consisted of the transposition of two adjacent letters in words and were introduced systematically in order to examine the effects of word familiarity and word length. After completing the proofreading task, children were given a spelling test which called for identifying the correctly spelled word for the 25 incorrectly spelled words from both passages. For both groups, in proofreading, error rates were greater on longer words. Less able readers made significantly more misses than did good readers. No effect was found for text difficulty. Differences on the spelling test were nonsignificant.

LEVY, BETTY ANN. Proofreading familiar text: Constraints on visual processing. *Memory & Cognition*, January 1983, *11*, 1-12.

Investigates the effect of prior knowledge on a proofreading task in two experiments. In the first experiment, 48 undergraduates proofread 10 passages for spelling errors. The three experimental manipulations were ease and difficulty, in which passages were chosen at intermediate and advanced level books and children's fairytales; prior experience, in which passages were read aloud five times in an error-free version; and placement of errors in the passage, in which errors were also distributed equally over function words, verbs, adjectives, and nouns. Error placement did not interact with the experiment treatments, but error detection was higher in easy passages ($p < .001$) and following familiarization ($p < .001$). Errors in children's tales were detected more frequently than in unfamiliarized passages ($p < .001$) but not so frequently as in familiar easy passages ($p < .001$). In the second experiment, 96 undergraduates followed procedures similar to the first experiment, without children's tales. In addition, familiarization was achieved by reading exactly the same passage, or reading the same passage in a different type script, or hearing the same passage, or reading a paraphrase. All types of prior experience led to better proofreading performance ($p < .001$), but any change from an exact repetition of passages led to a decrease in the magnitude of improvement. In a further manipulation, subjects read one text then proofread another or read a text then proofread a scrambled version. The improvement in error detection for the scrambled version was significant ($p < .001$). It is argued that better proofreading after familiarization was facilitated at the level of visual letter and word analyses, not through higher level constraints on reading.

SMITH, SIDNEY L., & AUCELLA, ARLENE F. Numbering formats for hierarchic lists. *Human Factors*, June 1983, *25*, 343-348.

Has 16 adults scan hierarchically numbered items in a list to perform various tasks. The list consisted of 313 items printed on several pages in a hierarchic structure five levels deep in places. Two forms of the list were developed. In one, a complete numeric label introduced each item; in the other, the first digits of any numeric label were omitted when the duplicated digits in the immediately preceding label. Subjects performed six tasks: ordered search, random search, name search, count branch (How many third-level entries are listed for the following second-level entries?), compare branch-second level (Which third-level entry has the most subordinate entries?), compare branch third-level, and mark branch. The first three tasks assessed ability to locate and identify individual items in the list; the last three tasks required a broader perception of list structure. Time and errors were noted. For the first three tasks, complete numeric labels resulted in faster performance. For the last three tasks, there was no advantage to complete numbering. Error rates tended to be low throughout, but were more frequent with implicit numbering than with complete numbering.

Phillips, Richard J. Searching for a target in a random arrangement of names: An eye fixation analysis. *Canadian Journal of Psychology,* December 1981, *35,* 330-346.

Conducts four experiments to investigate the eye fixations used in searching for names in a map-like display. There were 11 to 28 students in each of the four experiments; all were university students. Students viewed back-projected slides of a random arrangement of 20 pronounceable artificial names. The target name that students had to find in the 20 names was also back-projected onto a screen. There was little or no tendency for students to fixate names that resembled the target. Students, instead, fixated one of the nearest names previously not fixated, and each student appeared to have his or her own search pattern. Fixations on names with the same initial as the target were significantly larger than on names with a different initial. Peripheral vision was found to be important in placing the fixation but was not important in the searching process.

Manis, Franklin R., & Morrison, Frederick J. Processing identity and position information in normal and disabled readers. *Journal of Experimental Child Psychology,* February 1982, *33,* 74-86.

Examines average and poor readers' ability to process identity and position information in visually presented five-letter arrays. Subjects were 20 third/fourth and 20 sixth graders, 10 poor and 10 average readers in each group. Poor readers' average Binet or WISC-R score was 99, and their average reading level was 1.8 to 2.3 years below grade level on the composite reading score of the *Iowa Test of Basic Skills.* The average Otis-Lennon IQ of the average reader was 103, and their reading scores were at grade level. The letters were selected from 14 consonants and were tachistoscopically presented. In the identity task, subjects viewed the array, then saw a letter and were required to report if the letter was in the array. In the identity plus position task, the same procedures were used, but subjects had to report the position in the array of the letter if they had responded correctly to the identity position of the task. Both grade and reading ability differences were found on the identity response measure, but not on the position response measure. The reading ability differences also attenuated with age.

Silverman, Wayne P., & Ulatowski, Paul E. Are whole words perceptual units in reading? *Perceptual and Motor Skills,* December 1981, *53,* 811-826.

Examines the perceptual processing of letters embedded within one- or two-syllable words and visually similar nonwords. There were 64 subjects in Experiment 1, 96 in Experiment 2; all subjects were college students. Both experiments required two-choice speeded discrimination tasks in which the subjects were told before the stimulus presentation the identity and location of the critical display information. Stimuli in both experiments were one or two syllable words or nonwords differing in one or two letters. Dependent variables were reaction time to identify the letter or letters and percentage of errors. One-syllable words differing by two letters were more rapidly discriminated than one-syllable words differing by one letter. Nonword pairs differing by two letters were discriminated no faster than nonword pairs differing by one letter. These latter results also hold for two-syllable words and nonwords. In Experiment 2, subjects received more practice on a task forcing attention to multiple letters in stimulus displays. Results replicated Experiment 1, except that the results showed improved performance in the presence of redundant information.

Lukatela, G.; LORENC, B.; OGNJENOVIC, P.; & TURVEY, M.T. A word superiority effect in a phonetically precise orthography. *Language and Speech*, April-June 1981, *24*, 173-183.

Examine the accuracy of identifying Serbo-Croatian letters presented in the context of a Serbo-Croatian word or nonword. Considerable research in English has found that letters are identified more rapidly and with fewer errors when presented in the context of a real word than when presented in nonwords. The authors point out that English is basically morphophonemic; therefore, it could be argued that this word-superiority effect is due to the reader's ability to access the lexicon via meaning and not just phonemically and because processing English often demands reading units larger than a single letter. Serbo-Croatian, however, is basically phonemic. The authors tested the letter-recognition ability of 41 University of Belgrade undergraduates. The stimuli were Serbo-Croatian letters presented in horizontally arranged strings of letters followed by a brief mask with two letters, one of which was in the string. The subject' task was to identify which letter was in the string. There were four stimulus strings: single letters, words, pseudowords and nonwords. There were significantly more correct responses for words than in any of the other stimulus conditions. Concludes that because English and Serbo-Croatian differ considerably in the level at which they systematically reference the spoken language, that the word-superiority effect is not due to orthographic idiosyncracies. They suggest that certain word specific factors may be involved.

BRADSHAW, JOHN L., & MAPP, ALAN. Laterally presented words: Orthographic analysis and serial, parallel or holistic modes of processing. *Australian Journal of Psychology*, April 1982, *34*, 71-90.

Examines the effects of three orthographic variables: upper case, lower case, and cursive letters; and letter position or subjects' repetition time in judging whether or not laterally presented, single-syllable four-letter words were the same as a target word. Four experiments were conducted, each using 16 college students as subjects. Nontargets differed systematically from targets by a single letter change at one of the four letter positions. For upper and lower case letters, right visual field superiorities were generally stronger with targets, and middle letter changes were superior with nontargets. Initial letter changes were detected most rapidly, with either letter position three slowest or all letter positions except the initial being equally slow. Little evidence was found to support serial left-to-right processing scan, global whole-word recognition based on word shape or of a qualitative difference between the hemispheres of word recognition. Concludes that processing of words can proceed largely in parallel for all but the first and possibly the last letter position.

STANOVICH, KEITH E.; FEEMAN, DOROTHY J.; & CUNNINGHAM, ANNE E. The development of the relation between letter-naming speed and reading ability. *Bulletin of the Psychonomic Society* May 1983, *21*, 199-202.

Uses two groups of first grade pupils in studying the relation between letter-naming speed and reading test scores. The first group (A) consisted of 32 boys and 21 girls who were tested at the beginning and end of grade one. In May of first grade, this group was administered the comprehensive subtest of the *Gates-MacGinitie Reading Tests* and the Reading Survey of the *Metropolitan Achievement Test* (MAT). A median split of the group was made based on MAT score and groups were termed skilled and less-skilled readers. The second group (B) of subjects consisted of 28 boys and 25 girls who were also tested on the MAT in May and divided into the two ability groups based on the scores. Additionally 18 grade three and 20 grade five pupils were administered the appropriate level of the MAT and also split into the two ability levels. Stimuli for Group A, grade three, and grade five children consisted of lowercase letters presented on a screen. Group B stimuli were uppercase letters. Grades three and five pupils gave almost errorless performance. For Group A, the mean number of errors was 3.1 in the fall and .84 in the spring; for Group B, the mean number of errors was .72. The correlation coefficient between letter naming times and MAT scores for Group A was -.38 in the fall and -.28 in the spring; for Group B, a coefficient of -.29 was obtained with coefficients of -.22 and -.54, respectively, for third and fifth graders.

Drewnowski, Adam, & Healy, Alice F. Phonetic factors in letter detection: A reevaluation. *Memory and Cognition*, March 1982, *10*, 145-154.

Conducts three experiments investigating subjects' ability to detect the letter *e* in syllables which did or did not carry the primary word stress. All subjects were undergraduate students and numbered 82, 96, and 96, respectively, in the three experiments. In Experiment 1, subjects read four 100-word passages and circled the *e*s. Passages includes a standard prose passage, a nonsense passage of scrambled words, a mixed letter-case prose passage with alternating letters in uppercase, and a passage of meaningless and unpronounceable letter strings. The voicing of the target letter *e* and linguistic class of the target word were varied independently. More errors occurred on silent than on pronounced *e*s and on function words than on content words. However, the silent *e* always appeared at the end of a word and the pronounced *e* in the middle. In the second experiment, all instances of *e* occurred in the penultimate location in words. No effects of letter voicing were found. Findings in Experiment 3 demonstrated that subjects made more errors on the *e* in unstressed syllables than on *e* stressed syllables in three-syllable words.

Timko, Henry G. Effects of differential criterion levels on the discrimination of letters. *Journal of Experimental Education*, Summer 1983, *5*, 203-205.

Designs an investigation to determine the effects of differential criterion levels on visual discrimination of highly confusable letters. Subjects were 40 children randomly selected from kindergarten classes in two Canadian schools. Half were exposed to simultaneous discrimination and half to successive discrimination. Criterion levels were four and nine consecutive correct responses. A verbal associates transfer task followed criterion on visual discrimination. A criterion level of four correct responses was used for transfer. The task required subjects to match a letter with one of three response alternatives. The simultaneous mode required significantly fewer trials to criterion than the successive mode but not on transfer. A criterion of four yielded fewer errors than a criterion of nine on successive discriminations, but a significantly greater number of trials on transfer.

IV-7 Auditory perception and reading

Backman, Joan. The role of psycholinguistic skills in reading acquisition: A look at early readers. *Reading Research Quarterly*, Summer 1983, *18*, 466-479.

Investigates and compares the role of speech-sound segmentation, sound blending, and speech-sound discrimination in the reading acquisition of three groups of children: those who learned to read prior to formal instruction in school, an age-matched group of nonreaders of the same sex and socioeconomic background, and a group of older children reading at the same level. The word identification subtest of the *Woodcock Reading Mastery Test* was used as the identification measure for group placement. Segmentation tasks involved a tapping test, where students were to tap the number of phonemes or syllables heard, and a sound deletion test, where the child deleted a sound and then said the new word formed by the remaining sounds. Blending skills were assessed using the sound-blending subtest of the *Basic Reading Skills Battery.* The speech-sound discrimination measure was the *Goldman-Fristoe-Woodcock Test of Auditory Discrimination.* Subjects were also given the WISC, two additional subtests of the *Woodcock*, and the spelling subtest of the *Wide Range Achievement Test* (WRAT). Early readers' scores exceeded nonreaders on the reading and spelling tasks; older readers exceeded early readers on passage comprehension and spelling. Bivariate correlational analyses revealed that the reading subtests were highly intercorrelated for both groups of readers, but the coefficients were not significant for WRAT spelling scores with the younger readers. Early readers had higher verbal, performance, and full-scale IQs. Early readers were superior to nonreaders on a weighted linear combination of the three measures, (segmentation, blending and discrimination) but performed less well than the older readers. The tapping test produced great variability in response among all three groups. On sound deletion, early readers were as proficient as the older readers. Older readers were superior to both groups of kindergarten children on their ability to blend phonemes. On the *Goldman-Fristoe-Woodcock*, older readers made fewer errors than younger, and early readers did not perform significantly different than did their nonreading age mates. Additional analyses indicated that sound-manipulation skills were more closely related in early readers than in the nonreaders or the older readers.

BRADLEY, L., & BRYANT, P.E. Categorizing sounds and learning to read – A causal connection. *Nature*, 3 February 1983, *301*, 419-421.

Conducts a two-pronged study to determine whether or not there is a causal link between the ability to categorize words on the basis of common sounds and achievement in learning to read. For the first part of the study, 118 four-year-olds and 285 five-year-olds, none of whom could read any of the words on the *Schonell Reading Test*, were assessed for their ability to identify words which shared a common phoneme. These children were followed for four years when standardized tests of reading and spelling and the WISC-R were administered to the 368 remaining subjects. Additionally, 263 of the children were given a mathematics test. Correlation coefficients between initial sound categorization scores and final scores on the Schonell Reading, Schonell Spelling, and Neale Analysis Reading Tests, respectively, were .57, .48, and .53 for the four-year-olds and .44, .44, and .48 for the five-year-olds. For the second aspect of the study, 65 of the original group were selected and divided into four groups matched for age, verbal IQ, and scores on sound characterization. All of these children came from those who had scored low on sound categorization. Beginning with year two of the study, Groups I and II were given 40 individual sessions over 2 years in categorizing sounds. Group II received training with plastic letters to note grapheme/phoneme correspondence. Group III received training in categorizing pictures; Group IV received no training. The two experiment groups both showed significantly higher mean scores on reading and spelling than did Groups III and IV. Differences on mathematics, while not significant, favored the experimental groups also.

ZINKUS, PETER W., & GOTTLIEB, MARVIN I. Patterns of auditory processing and articulation deficits in academically deficient juvenile delinquents. *Journal of Speech and Hearing Disorders*, February 1983, *48*, 36-40.

Studies auditory processing deficits and articulation disorders in an institutionalized group of 30 male juvenile delinquents, ages 13-18. All subjects were administered either the WISC-R or the WAIS. The *Wide Range Achievement Test* (WRAT) was utilized to evaluate reading, spelling, and arithmetic skills. Speech and language evaluation included the *Peabody Picture Vocabulary Test* (PPVT) for receptive language and the *Templin-Darley Tests of Articulation.* Auditory processing was evaluated with subtests 6, 13, and 18 of the *Detroit Tests of Learning Aptitude* (DTLA): subtest 6 assesses auditory attention span for unrelated words, subtest 13 assesses auditory attention span for related syllables, and subtest 18 assesses ability to follow oral directions. In addition, the Digit Span subtest of the WISC-R was utilized as a further measure of auditory sequential memory. Significant auditory processing deficits were frequently observed and were significantly related to underachievement in reading, spelling, and arithmetic. The 10 worst readers were compared with the 10 best on auditory processing. They differed only on the Digit Span subtest and subtest 6 of the DTLA. Both groups performed poorly on subtests 13 and 18 of the DTLA.

Dermody, Phillip; Mackie, Kerrie; & Katsch, Richard. Dichotic listening in good and poor readers. *Journal of Speech and Hearing Research*, September 1983, *26*, 341-348.

Investigates and compares dichotic listening performance in 15 good and 15 poor readers. Subjects came from fifth- and sixth-year classes in a private boys school. Age of poor readers ranged from 11-5 to 13-4, and of good readers from 10-9 to 12-6. Poor readers were selected from the lowest quartile of the class on the basis of teacher ratings and scores on the *Gapadol Reading Comprehension Test;* additionally, they scored 80 or better on the performance scale of the WISC (mean score = 94.3). Good readers were selected by teacher judgment and scores on the Gapadol equal to or better than expected for their age. Dichotic test instructions informed boys that they would hear two words, presented one to each ear, and they were to point to the two words from a list of six alternatives. Four dichotic test conditions were given: simultaneous onset, left-ear lead, simultaneous onset (reverse of the first simultaneous set), and right-ear lead. There was also a monotic condition in which two words were presented to the same ear. Right-ear score for each group was better than left-ear score. No difference was noted in the performance of the groups when words were presented monotically. Poor readers did not show atypical laterality or phonetic processing effects, although there was a significant difference in their ability to identify both items on dichotic trials correctly. Because differences between groups were observed only in double correct response class performance, the results were interpreted as supporting previous work indicating that reading-disabled children have a deficit in their capacity to process two items on dichotic tasks.

Prior, Margot R., Frolley, Maretta; & Sanson, Ann. Language lateralization in specific reading retarded children and backward readers. *Cortex*, June 1983, *19*, 149-163.

Uses a dichotic monitoring task in investigating language lateralization in three subgroups of 10 disabled readers each. The following screening measures were administered: *Neale Analysis of Reading Ability,* short form of the WISC, Digit Span subtest of the WISC, and six items from the *Annett Handedness Questionnaire.* Scores on the Neale and WISC were used to select subjects for two experimental groups and a control group. Experimental groups were: 1) Specific Reading Retarded (SRR), reading 22 months below expected level, and 2) Backward Reading, reading at least 20 months below CA but less than 15 months below the expected level. Controls were reading not lower than four months below expectancy. Subjects listened to 536 word pairs, including 160 target words, 80 to each ear. Pairs were presented through stereo-headphones. Subjects were to press buttons when the target word was heard. A right ear advantage was noted for all groups. No significant difference on hit rates or false alarms were found among the three groups. The SRR group had the slowest reaction times, but all groups had faster reaction times for the right ear. As indicated by a signal detection analysis and comparison of performance overtime, neither of the reading disabled groups showed any deficiency in the ability to divide and sustain their attention to the task.

IV-8 Reading and language abilities

Fletcher, Jack M. Linguistic factors in reading acquisition: Evidence for developmental changes. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading.* New York: Academic Press, 1981, 261-294.

Reviews and organizes research on linguistic factors in reading acquisition as evidence for developmental changes. Developmental differences in decoding are examined in the areas of phonology, phonemic segmentation, syllabication, phonemic recoding, oral reading errors, and intraword redundancies. Developmental changes in comprehension are noted in grammatical processing, oral language, oral reading errors, syntactic comprehension, and semantic organization. Selected studies of reading disability are reviewed in relation to the conclusion that the cognitive strategies which children use in learning to read interact with developmental changes in language functioning.

Borkowski, John G.; Ryan, Ellen Bouchard; Kurtz, Beth E.; & Reid, Mary K. Metamemory and metalinguistic development: Correlates of children's intelligence and achievement. *Bulletin of the Psychonomic Society,* September 1983, *21*, 393-396.

Examines the interrelationships among metamemory and metalinguistic performance and the WISC-R Vocabulary subtest, the *Iowa Test of Basic Skills* (ITBS), the *Slosson Oral Reading Test* (SORT), a metareading question, and teacher ratings of metamemory. Metamemory performance was assessed by a battery of six subtests; metalinguistic performance, by three subtasks: Sentence Judgment, Auditory Blending, and Word Segmentation. Subjects were 39 first graders and 41 third graders. An index of metacognition, consisting of metamemory and metalinguistic subtasks, correlated .64 with first graders' WISC-R Vocabulary scores and .54 with third graders' Vocabulary scores. The coefficients of the metacognition task with the ITBS were .61 and .53, respectively, for grades one and three. These coefficients dropped and were non-significant when WISC-R Vocabulary scores were partialed out. With the WISC-R Vocabulary scores partialed out, the coefficient between the metacognition index and SORT scores was .43 for first graders. Point-biserial coefficients between metareading and composite metacognition scores remained significant only for first graders when WISC scores were removed.

Flood, James, &Menyuk, Paula. Metalinguistic development and reading/writing achievement. In Malcolm P. Douglass (Ed.) *Claremont Reading Conference Forty-Sixth Yearbook,* 1982, 122-132.

Presents a brief overview based on selected research findings of the development of metalinguistic awareness in oral language and the relations between metalinguistic awareness and reading/writing achievement. Two previously completed studies by the authors are cited in some detail.

Horne, Marcia D.; Powers, James E.; & Mahabub, Patricia. Reader and nonreader conception of the spoken word. *Contemporary Educational Psychology,* October 1983, *8*, 403-418.

Investigates the development of the concept of word in readers and nonreaders. Subjects were 10 boys (5 readers, 5 nonreaders) from each of four age groups (6.5-7.5, 7.6-8.5, 8.6-9.5, 9.6-10.5). Boys who had average scores on the *Lorge-Thorndike Intelligence Test* but who were reading from one to two years below grade level on the *Stanford Achievement Test* were classified as nonreaders. Five examples of each of eight different classes of auditory stimuli were taped and presented to boys individually using four different random orderings, and they were asked to identify which were single words. Readers scored significantly higher than nonreaders. The youngest age group of boys scored significantly lower than did boys in the three other age groups. Readers did not perform differentially according to stimulus class, but nonreaders scored significantly lower on isolated phonemes and isolated syllables than on the other stimulus classes. Also nonreaders' mean scores were significantly lower for sentences, long words, phrases, nonverbal real-life, and nonverbal abstract stimuli than was their mean for short words.

PUDIS, BERNADETTE, & SULZBY, ELIZABETH. The effects of three instructional activities on children's responses to the open-ended question: What is a word? In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 194-200.

Investigates children's metalinguistic understanding of the term 'word.' Thirty children from each of grades one, three, and five were randomly assigned to the experimental and control groups. The treatment consisted of three activities, each one undertaken in three sessions at weekly intervals. The tasks were a directed reading activity, a writing task, and a flash-card activity involving word pairs. After each session, children in both groups responded to the question "What is a word?." Responses were classified as semantic if they met specified criteria of meaningfulness. Fifth grade children gave more semantic responses than first graders ($p < .001$) and third graders ($p < .01$) after all three tasks. First and third grade children did not differ, and experimental and control groups did not differ for each grade level.

ALLAN, KAREN KUELTHAU. The development of young children's metalinguistic understanding of the word. *Journal of Educational Research,* November/December 1982, *76,* 89-93.

Studies developmental patterns in segmenting ability using 15 children each at preschool, kindergarten, and first grade levels. An informal assessment of reading abilities was used to classify children into nonreadiness (NR, $n = 13$), readiness (RR, $n = 14$), and reader (R, $n = 18$) categories. Segmenting abilities were assessed in both a visual and an aural context using 11 sentences. In both contexts, children were asked to identify each word. Mean performance scores within each context increased as reading ability increased. For the NR and RR groups, aural context performance mean scores were higher than mean scores in the visual context; for the R group, the mean performance score was higher in the visual context.

HARE, VICTORIA CHOU. What's in a word? A review of young children's difficulties with the construct "word." *The Reading Teacher,* January 1984, *37,* 360-364.

Illustrates, through a review of research on emerging metalinguistic awareness, young children's potential difficulties with the construct "word" at their entrance to school. Areas of focus include: word consciousness problems, word boundary problems, and word referent problems.

WATSON, ALAN J. Linguistic awareness, reasoning and learning to read. In Don Barnes, Anne Campbell, & Robin Jones (Eds.) *Reading, Writing, and Multiculturalism.* Adelaide, South Australia: Australian Reading Association, 1982, 104-114.

Refers to the findings from the first two years of a longitudinal study of the language and thinking of approximately 140 children, grades K-3. The Grammatical Closure Test of the *Illinois Test of Psycholinguistic Awareness* and the *Peabody Picture Vocabulary Test* were used in assessing language production and reception, grammar, and vocabulary; Piagetian tests of seriation and perceptual explorations were used to monitor thought; a 24-item measure, the *Units of Print Test*, was used to determine linguistic awareness of a number, a letter, a word, or a sentence; and reading was assessed by the *Paragraph Understanding Test* and the *St. Lucia Word Recognition Test*. Operativity was found to be the stronger predictor of Units of Print at both kindergarten and first grade. At grade one, language added significantly to the prediction of Units of Print. Both language and operativity in kindergarten and first grade contributed significantly to the prediction of reading comprehension. Implications for instruction are given.

Robinson, H. Alan; Lazarus, Alan; & Costello, Genevieve. Beginning readers' concept of reading: An international survey. *Reading – Canada – Lecture*, January 1983, *2*(1), 12-17.

Presents the findings of an international survey of beginning readers' concepts of reading. Teachers were to ask pupils in the first two weeks and again in the last two weeks of school six questions. There were 709 children involved in the first stage and 350 in the final stage of the study. Children came from seven countries and median ages ranged from 4-1 in England to 7-10 in Sweden. Sex distribution was approximately even except in Colombia, where there was an all male sample. At the initial administration, 42% of responses to "what is reading?" fell into Category 1 which includes "don't know, no response, or reading is reading." By the end of grade one, this category had dropped to 24%. In Category 4, which included cognitively oriented responses such as learning or reading for meaning, there were 8% of responses at the beginning of the year and 30% in the final administration. By the end of the school year, over 90% of the children in all countries felt that they were able to read, and 96% responded affirmatively when asked if they liked to read. Whereas at the initial interview most children had general explanations for why they needed to learn to read, in the final interview responses were more specific and focused on school success, functional reading, and reading as an aid in learning.

Moore, Phillip J. Aspects of metacognitive knowledge about reading. *Journal of Research in Reading*, September 1983, *6*, 87-102.

Examines the relationship between metacognitive knowledge about reading and 1) its relationship to reading performance, 2) its development across grade levels, and 3) the influence of using two different interview teachniques. Children from three grade levels and from five county junior and infant schools in northwest England were included in the sample: 11 good and 8 poor readers in Infant 3 classes, 14 good and 15 poor readers in Junior 2 classes, and 15 good and 13 poor readers in Junior 4 classes. Children were individually interviewed on two occasions, one for each interview type. Responses to interview questions were transcribed and analyzed using an ordinal scale. Better readers appeared to be more metacognitively aware and knew about more aspects of reading than did poorer readers. Junior 2 and 4 children exhibited considerably more metacognitive knowledge about reading than did Infant 3 children, with little difference between the two older groups. The interview technique of asking direct questions was found to be a more appropriate strategy than the technique of asking questions after a hypothetical dialogue between two children.

Carter, Anne, & Stokes, William T. What children know about reading before they can read. *Journal of Education*, Spring 1982, *164*, 173-184.

Examines the characteristic achievements of 14 children, ranging in age from 21 to 68 months, who had not yet begun formal reading instruction but were beginning to discover the significance of print. Data were collected via video-tapes or audio-tapes of home visits and when children were exposed to a variety of visual materials (e.g., letters, numerals, trademarks, streetsigns and paper and markers) and to a variety of story books. Parents also completed a questionnaire. Data were analyzed in terms of children's knowledge of letters, books, words and stories; strategies for extracting meaning from print; and awareness of their ideas about what reading entails. Three principal strategies were observed and were called meaning, decoding, and memory. All children showed some competence with each strategy, but most revealed specific, but temporary, preference for one. Clear developmental stages were not found and age was a poor predictor of performance. Concludes that young children display metalinguistic awareness of their approaches to print.

Sultmann, William F.; Elkins, John; Miller, Steven F.; & Byrne, Michael. Linguistic awareness and early reading. *Reading Psychology*, July-December 1983, *4*, 327-335.

Explores the concept of linguistic awareness in beginning readers and particularly whether the *Concepts About Print Test* (CAP) can differentiate among varying levels of reading proficiency. All 129 Year 1 pupils enrolled in one primary school in Brisbane, Australia, were administered the *CAP*, the *Southgate Group Reading Test* (SRT), *Word Selection Test*, and the *ACER Primary Reading Survey Test*. Concurrent validity between the CAP and the SRT was .75, and .74 between the CAP and the ACER. A factor analysis of the CAP scores yielded four factors: 1) book orientation concepts; 2) print direction concepts; 3) letter-word concepts; and 4) advanced print concepts. Principal factor analysis of ACER and SRT scores was used to classify pupils into higher, average, and low readers. Three factors, letter-word concepts, print direction concepts, and age were found to load on a significant discriminant function separating the three ability groups. Univariate analysis of variance revealed that print direction concepts, letter-word concepts, and advanced print concepts distinguished significantly among the three ability groups.

Pinson, Sharon. Pre-school children's responses to written language in everyday environment. *Reading Education*, Spring 1983, *8*(2), 21-23.

Undertakes a pilot study to determine what three- and four-year-old Australian children know about print taken from their everyday environment. Included in the study were 11 three-year-olds and 13 four-year-olds. Children were first shown a real object with the label and asked to read the writing; then asked to read the print that retained the style, color, and format of the original; finally, they were shown the words in isolation in standard black print with all context support removed. Four-year-olds answered more items correctly and had a lower non-response rate than three-year-olds. While the correct response rates for the first task were 74% and 88%, respectively, for three- and four-year-olds, for the final task, the correct response rate was 0% for three-year-olds and 8% for four-year-olds.

Goodall, Marilyn. Can four year olds "read" words in the environment? *The Reading Teacher*, February 1984, *37*, 478-482.

Explores whether Australian preschool children, 11 girls and 9 boys, average age 4 years 9 months, who had not received formal reading instruction were able to identify stimulus words more readily with full or partial environmental clues. Condition 1 presented words photographed in meaningful context. In Condition 2, slides from Condition 1 were masked so that only print was visible. Color and print styles were retained. Tests were administered over a two week period. In Condition 1, children responded correctly almost 70% of the time. Only 2% of their errors did not make sense, given the stimulus. In Condition 2, about 30% of the responses were correct, with 50% indicating they didn't know or had no response. More responses did not make sense than in Condition 1.

Wiseman, Donna, & Robeck, Carol P. The written language behavior of two socio-economic groups of preschool children. *Reading Psychology*, July-December 1983, *4*, 349-363.

Proposes to investigate the reading and writing knowledge acquired by lower socioeconomic (SES) children prior to formal instruction. Complete data were collected from 18 four- and five-year-old children enrolled in a Headstart program. Data concerning each child's knowledge of written language were individually collected through the use of interview techniques as well as informal and standardized assessments and included: *Book Handling Knowledge, Sand Test, Preschool Concepts of Reading,* and *Preschool Concepts of Writing.* The results of this study were compared with those obtained with 20 middle SES children enrolled in a day care center. Demonstrated behaviors indicated that the two groups of preschool children were acquiring reading and writing knowledge. The children from the Headstart group were learning the same things as the children from the private day care center. However, there were differences between the two populations in the range and number of behaviors observed, with greater numbers of behaviors demonstrated by middle-class SES children. Middle-class SES children tended to exhibit more sophisticated knowledge and behaviors than did lower SES children. This investigation suggests that children from not only different SES groups but children from the same SES group enter school with wide differences in their written language knowledge.

Hiebert, Elfrieda H. Knowing about reading before reading: Preschool children's concepts of reading. *Reading Psychology,* July-December 1983, *4,* 253-260.

Reports findings from an investigation of 60 preschool children's concepts about reading. Twenty each of three-, four-, and five-year-olds were assessed with three tasks. The first task had children describing the activity of an adult engaged in oral reading, silent reading, and staring at the ceiling. A majority of the children in each age group correctly identified silent and oral reading; the number of correct identifications increased with pupil age. A second task had children evaluating their own reading ability. Only four of the 60 children incorrectly evaluated their own reading abilities, stating they could read when they couldn't. The third task had children responding to what it is that is actually read on a page. Different amounts of print and books with and without text and blank pages were presented. Three-year-olds differed from fours who differed from fives. Threes had the least amount of information about books.

Snow, Catherine E. Literacy and language: Relationships during the preschool years. *Harvard Educational Review,* May 1983, *53,* 165-189.

Argues that literacy and oral language are similar and closely related skills which are acquired in a like manner. In addition to drawing on research findings to support this thesis, several examples from the interaction of one child, between the ages 18-36 months, with his mother are used to demonstrate the relevance of three characteristics of social interaction in oral language and literacy acquisition and training: semantic contingency, scaffolding, and accountability procedures. Dissimilarities in the development of language and literacy are also discussed, and it is argued that these are more differences of degree than of absolutes. Additionally, the author dismisses an explanation of variations in the level of literacy in the home as being responsible for social classes differences in school achievement. Proposed is a reanalysis of the demands made on children during literacy activities so that the nature of the failure of some children to acquire literacy skills can be identified.

Ryan, Ellen Bouchard, & Ledger, George W. Assessing sentence processing skills in prereaders. In Barbara A. Hutson (Ed.) *Advances in Reading/Language Research,* Volume 1. Greenwich, Connecticut: JAI Press Inc., 1982, 9-50.

Reports three studies (one previously published) which used a pictograph sentence memory task to assess the reading readiness of prereaders. Kindergarten and first grade children (n = 60, 60, 52) were trained to read pictograph sentences. Comparisons were made between good and poor recallers, first grade and kindergarten, and different forms of training. Techniques to enhance recall that were taught during the training sessions included sentence enactment, imagery, sentence repetition, and repetition of individual pictographs. Immediate and delayed recall of the sentences were tested. Results were correlated with reading readiness (word recognition, writing own name, word blending, metareading), metalinguistic (oral cloze, word blending), and cognitive (nonverbal reasoning, metamemory, metareading) indices. The sentences enaction strategy consistently provided better recall memory than other strategies, and the imagery strategy also had strong positive effects. Initial pictograph sentence recall was highly correlated with oral cloze performance, word blending, and metareading ($p < .05$). Other significant correlations are also reported. It is concluded that the *Pictograph Sentence Memory Test* is a useful index of reading readiness.

Schickedanz, Judith A., & Sullivan, Maureen. Mom, what does U-F-F spell? *Language Arts*, January 1984, *61*, 7-17.

Collects data from home and nursery school on the literacy development of six preschool children. The results are reported in general trends that held true for all of the children. In the home the most frequently occurring event was story reading. The majority of events in the home tended to be child-initiated. The majority of home events also involved parents with about one-third including instruction of some sort. At school, there were relatively few literacy events, and the sharing that occurred at home between parent and child was absent in the child/adult relationship at school. Children rarely asked a literacy-related question of an adult in the classroom. Suggestions for implementing literacy events in school are given.

Buck-Smith, Robin. The effectiveness of teaching understandings about reading to first graders. *Reading–Canada–Lecture*, January 1983, *2*(1), 7-11.

Determines whether the implementation of lessons designed to teach understandings about reading would result in an increase in such knowledge, would affect reading achievement, and would affect attitudes toward reading in general of 60 pupils in first grade in a rural area. All had attended kindergarten the previous year. Three teachers were assigned to each of the two treatment groups. Experimental group one consisted of 10 girls and 20 boys taught 20 lessons to teach the nature of the reading act, the purpose of reading, and the language of reading instruction. Group two included 20 girls and 10 boys who were taught 20 lessons on reading skills using the newspaper. Daily sessions of 20 minutes were conducted for four weeks. At conclusion, students were tested with the *Test of Linguistic Awareness in Reading Readiness* (LARR) and the *Children's Attitude Toward Reading Test* (CHART). At the end of the school year, the children took the *Gates-MacGinitie Reading Tests, Primary A*. Mean scores on the LARR were significantly higher for Experimental Group one ($p < .05$). Mean scores were also significantly higher on the CHART ($p < .05$). Differences between the mean scores for the two groups on the *Gates-MacGinitie* were not significant.

Brown, Garth H. Children's sense of story in relation to reading and writing. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading*, Vol. 1, *Focus on Comprehension*. Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 9-15.

Discusses the concept of "story" as an internal representation of experiences, traces the developmental stages of growth in children's sense of story, and examines how children's sense of story affects their reading and listening comprehension and their writing. Cites several supportive studies.

Wells, Gordon. Story reading and the development of symbolic skills. *Australian Journal of Reading*, August 1982, *5*, 142-152.

Reports another in a series of studies conducted by the Bristol Language Development Research Programme of 32 children who started school in 1977 to determine how differences in early language development account for differences in the success of early stages of schooling. In this latest study, transcripts of recordings of spontaneous conversation were searched for mention of activities related to reading and writing. Frequency scores were computed and compared with three language measures: knowledge about literacy on entrance to school, reading comprehension at seven, and the oral language section of the teacher assessment at five. Listening to stories was significantly associated with these three language measures.

Silva, Phil A.; McGee, Rob; & Williams, Sheila M. Developmental language delay from three to seven years and its significance for low intelligence and reading difficulties at age seven. *Developmental Medicine and Child Neurology*, December 1983, *25*, 783-793.

Reports the second phase of a large, longitudinal study examining the nature and stability of developmental language delays and their effect on low intelligence and reading difficulties. Approximately 1,000 normal and language delayed children were followed longitudinally in New Zealand. The children were tested at three years, five years, and seven years of age with the following instruments: 1) the *Reynell Developmental Language Scales;* 2) the Auditory Reception and Verbal Expression subtests of the *Illinois Test of Psycholinguistic Abilities;* 3) the WISC; and 4) the *Burt World Reading Test*. Binomial goodness-of-fit tests were used to estimate the significance of the differing prevalence rates of later language delay and later low intelligence and/or reading difficulties among the language-delay groups compared with the sample as a whole. The major finding was that every type of language delay identified at each age was associated with a significantly higher prevalence of low intelligence and/or reading difficulties.

Menyuk, Paula, & Flood, James. Linguistic competence, reading, writing problems and remediation. *Bulletin of the Orton Society*, 1981, *31*, 13-28.

Examines the relation of oral language knowledge and reading difficulties. Reviews extensively research on the reading processes related to oral language facility and reports, informally, the results of two studies. In the first study, average and good fourth grade readers were compared. The tasks presented required subjects to paraphrase, disambiguate or transcribe orally or in writing sentences that were presented orally or in written form. Average readers made significantly more errors than good readers in nearly all tasks. Concluded that good readers had more highly developed metalinguistic strategies and were able to attend to the required tasks because of superior skill in the mechanizations of language. The second study was conducted with eight good readers and eight poor readers in each of four grades: fourth, seventh, tenth, and adults. Four levels of metalinguistic awareness were assessed (recognition, judgment, correction and explanation) on four linguistic tasks (anomalies, nongrammaticalness, paraphrasing and detecting ambiguity). Each task was examined in three modes: reading, writing, and listening. The order of difficulty was the same for good and poor readers at all age levels: paraphrasing, anomalies, non-grammatical and detecting ambiguity. Concludes that all these tasks are related and that metalinguistic processing is task dependent. Also, poor readers at each age group performed significantly lower on each task than good readers.

Goodacre, Elizabeth, & Brennan, Peter. Phonological segmentation and the teaching of reading. In L. John Chapman (Ed.) *The Reader and the Text*. London: Heinemann Educational Books Ltd., 1981, 82-90.

Reports a series of experiments investigating children's metalinguistic awareness, its development, and relationship to reading acquisition. In one experiment, children (n = 86) at three age levels (4.7-6.0, 6.6-7.8, and 8.3-9.8) were requested to supply an example of a long word, and then to explain why it was so. Length of the word was measured in number of syllables, number of phonemes, and number of graphemes. The length of the word supplied increased on all measures with age. Sentences or phrases were offered by 30%, 3%, and 3% of each group, respectively, and no response was obtained from 15%, 7%, and 0% of each group, respectively. In a second experiment, six word-pairs were presented orally to the same subjects, who were requested to identify the longer word. The number of children getting all six items correct increased with age (15%, 56%, and 86%). In a third experiment, children (n = 120) in three age groups (4.6-5.6, 6.6-7.6, and 8.6-9.6) performed a similar task with 12 word-pairs, a rhyme recognition task, and a rhyme production task. A short word recognition test was used as a measure of reading attainment. Correlation coefficients were calculated between scores on the reading test and the rhyme production (.60) and recognition (.77) tasks. There was also a closer association between long word scores and rhyme recognition than rhyme production.

MORAIS, JOSÉ; CLUYTENS, MIREILLE; & ALEGRIA, JÉSUS. Segmentation abilities of dyslexics and normal readers. *Perceptual and Motor Skills*, February 1984, *58*, 221-222.

Utilizes three speech and one non-speech segmentation tasks and compares dyslexics (n = 27) and normal readers (n = 24) on their ability to perform them. Subjects ranged in age from 6 to 9 years. Dyslexic subjects were in a special school for dyslexia. Dyslexics were better than first graders but non-significantly poorer than second graders in the non-speech segmentation task; they were significantly worse than normal readers in speech segmentation.

HARBER, JEAN R. The effect of cultural and linguistic differences on reading performance. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 173-192.

Reviews research on the effect of cultural and linguistic differences on reading performance. Studies are discussed under the headings: 1) school environment; 2) home environment; 3) self concept; 4) teacher attitudes to cultural and/or linguistic differences; and 5) language or dialect. It is concluded that these factors, probably in combination, are responsible for reading failure among culturally different children, and that proposed solutions required further investigation.

ANDERSON, ELEANOR. Dialect and text. In L. John Chapman (Ed) *The Reader and the Text*. London: Heinemann Educational Books Ltd., 1981, 99-105.

Reviews selected American and British research on the relation between dialect and reading. It is suggested that although American research in inconclusive, British research suggests that dialect may not interfere with the acquisition of reading but that it may become a factor in the later stages of reading.

STEFFENSEN, MARGARET S.; REYNOLDS, RALPH E.; MCCLURE, ERICA; & GUTHRIE, LARRY F. Black English vernacular and reading comprehension: A cloze study of third, sixth, and ninth graders. *Journal of Reading Behavior*, 1982, *14*(3), 285-298.

Assesses the effect of Black English Vernacular (BEV) on reading comprehension. A group of third, sixth, and ninth-graders were classified, using the *Baratz Sentence Repetition Test*, as BEV or Standard English (SE) speakers. Subjects were asked to complete a series of three multiple-choice cloze passages that had been constructed by deleting content words and verbs in the past and present tense. In another task, pupils had to supply time adverbials in short paragraphs written in past, present, and future tenses. Cloze scores were analyzed in four separate analyses of variance based on different tenses and tasks. Overall, significant main effects were found for grade level (older pupils scored higher than younger pupils), for dialect rating (SE speakers performed better than BEV speakers), and item type (content words were easier than verbs). Some significant interactions were also noted.

Genesee, Fred. Bilingualism and biliteracy: A study of cross-cultural contact in a bilingual community. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 147-171.

Reports the results of a survey concerning the reading habits and experiences with printed media of bilingual Canadian children. Subjects were sixth grade pupils enrolled in either a total immersion program (103 girls, 64 boys) or a regular English program with French-as-a-second language (50 girls, 61 boys). Information from pupils was collected using two questionnaires, a diary system, and the *Test de Lecture "California"* (a French reading comprehension test). The children's mother and father each completed two identical questionnaires. Response rates were between 91% and 97% for pupils, and 51% and 71% for parents. Among other findings were that: 1) pupils' attitudes towards reading in English were positive, and preference for and involvement in reading quite high; 2) there was a tendency by the pupils toward discomfort and disinterest when reading in French; 3) the immersion group scored higher than the FSL group on the reading test ($p < .001$); 4) French was used comparatively infrequently by the children for most activities; 5) parents expressed positive attitudes and preferences toward reading; 6) parents reported owning predominantly English books, and the majority subscribed to an English newspaper; and 7) a differential use of French in interpersonal contexts was reported by pupils and parents from the immersion and FSL groups.

Cummins, Jim. Biliteracy, language proficiency, and educational programs. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 131-146.

Reviews research concerning the psychoeducational relationship between bilingualism and the development of literacy skills under different instructional conditions. Included are discussions of school failure among minority language children, assumed causes of school failure (deficient student input, and deficient educational treatment), the linguistic mismatch hypothesis as a cause of academic retardation, the logic of transitional bilingual education, bilingual program evaluations, language proficiency and literacy, and the interdependence of a cognitive/academic language proficiency across languages. A comparison is made between a Separate Underlying Proficiency model and a Common Underlying Proficiency model in their ability to account for research findings. It is concluded that the latter model is more theoretically valid.

Favreau, Micheline, & Segalowitz, Norman S. Automatic and controlled processes in the first- and second-language reading of fluent bilinguals. *Memory and Cognition*, September 1983, *11*, 565-574.

Investigates the relationship between automatic processing and reading speed for fluent bilinguals. Potential subjects were screened to select only those who were equally proficient in reading and listening comprehension in both of their languages. The subjects selected were classified into two categories: 1) those with equal reading speed in both languages; and 2) those with a slower reading rate for their second language. All subjects performed lexical decision tasks in both languages. Significant interactions and post hoc comparisons revealed significantly reduced automatic processing abilities for those subjects with unequal reading speed in both languages.

Favreau, Micheline, & Segalowitz, Norman S. Second language reading in fluent bilinguals. *Applied Psycholinguistics*, December 1982, *3*, 329-341.

Examines whether the slower second language reading rate of fluent bilinguals is specific to reading or is more general to second language functioning. Subjects were 30 Francophones (French mother tongue) and 30 Anglophones (English mother tongue), the majority of whom were undergraduate and graduate students. Reading proficiency was determined via standardized texts accompanied by multiple-choice questions. The *Optimal Listening Rate Test* was given to assess comprehension and proficiency in each language and also to establish an optimal listening rate for each subject in each language. Subjects were also administered the *Verbal Fluency Test* and the *Voice Comparison Test* as measures of production skill. Subjects adjusted the delivery rate of spoken first and second language texts so as to maximize delivery speed while maintaining full comprehension. Subjects who showed little or no differences in their optimal reading rates for the two languages also listened at equivalent optimal rates in their two languages. Subjects who read at a slower optimal rate in their second language also listened to it at slower optimal rates.

Downing, John. A source of cognitive confusion for beginning readers: Learning in a second language. *The Reading Teacher*, January 1984, *37*, 366-370.

Tests three hypotheses derived from the cognitive clarity theory of learning to read. Subjects consisted of two age groups of children in rural Papua, New Guinea: 1) younger children, age eight and less; and 2) older children, age nine and greater. Each age group was further categorized into three groups: 1) children receiving instruction in their mother tongue; and 3) children who had never been to school. All children were given two modified reading readiness tests. 1) a visual test based on the *Linguistic Awareness in Reading Readiness Test;* and 2) an auditory test of phoneme segmentation. Results showed that children taught in their mother tongue scored significantly higher on the phoneme segmentation test but no significant differences between groups were found on the visual test. The author concluded that beginning reading instruction is enhanced by using the child's native language, and conversely, instruction in a second language retards reading development.

Muchisky, Dennis M. Relationships between speech and reading among second language learners. *Language Learning*, March 1983, *33*, 77-102.

Researches the issue of whether phonological encoding is used by readers of English as a second language. Results were presented based on 35 subjects from a final study and 11 subjects used in a pilot study, all college students. Subjects were presented four same/different decision tasks. One task involved determining if word pairs rhymed; a second involved determining if, after the first letter, they were spelled alike; the third, whether they were synonyms; the fourth, if geometric shapes were alike or not. The memory tasks were done in two conditions: simple visual presentation (nonshadowing condition) and visual presentation accompanied by an oral repetition task (shadowing). The *Nelson-Denny Reading Test* was administered. Reaction times were faster in the shadowing condition. Correlation coefficients between reading test scores and memory tasks showed no significant correlations with comprehension and several moderate relationships with vocabulary.

Connor, Ulla. PREDICTORS OF SECOND-LANGUAGE READING PERFORMANCE. *Journal of Multilingual and Multicultural Development*, 1983, *4*(4), 271-287.

Identifies individual, instruction, and sociocultural factors deemed to be reliable predictors of limited-English proficiency (LEP) children's reading performance in English. The reading comprehension section of the *Metropolitan Achievement Test* (MAT) was used to assess the reading skills of 91 LEP students (K-12) with 21 different first language backgrounds. Data were analyzed by means of multiple regression analysis with results showing that in this sample, grade, Vietnamese language background, percentage of English spoken at home, higher level paternal occupation, and a relatively high number of students in the English-as-a-second language (ESL) class had positive effects on the reading skills of the subjects. Intensity of ESL instruction showed a statistically significant negative effect on the reading scores. Additional factors which did not have a significant effect on reading performance were gender, number of siblings and sibling position, hours of TV viewing, number of public library visits, length of parents' stay in the United States, parents' levels of education and social status, and mothers' staying at home.

Jarvis, Donald K., & Jensen, Don C. The effect of parallel translations on second language reading and syntax acquisition. *The Modern Language Journal*, Spring 1982, *66*, 18-23.

Assesses the effect on reading comprehension and syntax acquisition for second language learners of three aids to reading: occasional glosses, standard translations, and word-for-word translations. Subjects were 39 beginning undergraduate students of Russian and 18 students at the third semester and beyond who were given eight 100-word passages, four easy and four more challenging ones. Both order of passages and mode (gloss, standard translation, literal translation, or standard plus literal translation) in which a student read was rotated. Students were allotted five minutes to read each passage, then took a 7-item multiple-choice cloze test on story content followed by a 7-item multiple-choice English-to-Russian translation test focusing on syntactic elements. Preference for mode was also determined. For all subjects, parallel translations appeared to be slightly better for learning syntax and comprehending materials. Students at both levels preferred the standard plus literal mode over the others.

Perkins, Kyle. Semantic constructivity in ESL reading comprehension. *TESOL Quarterly*, March 1983, *17*, 19-27.

Reports the results of a study whose focus was semantic constructivity in ESL reading comprehension. The materials and procedures used were taken directly from a previous study conducted predominantly with children. The subjects of this study were 43 adults receiving intensive ESL instruction in a university setting. The group was stratified by three proficiency levels: beginning, intermediate, and advanced reading classes. Students first read short paragraphs (acquisition phase), and later classified statements as present or not present in the passages (recognition phase). An analysis of variance indicated significant differences among proficiency levels with the advanced class making significantly fewer misrecognitions than the beginning and intermediate classes. A further analysis of the types of errors revealed that students falsely recognized more true and false statements than they did true and false inferences.

Bean, Thomas W.; Potter, Tomas C.; & Clark, Charles H. Selected semantic features of ESL materials and their effect on bilingual students' comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 1-5.

Investigates the effects of story structure and pronoun referents on comprehension. Subjects ($n = 45$) were fourth and fifth graders whose native language was Spanish, and who were bilingual according to oral fluency scores on the *Bilingual Inventory of National Language*. Three story conditions were presented. In the first condition, the selected story was unchanged; in the second it was rewritten to make obscure pronoun referents more explicit; and in the third, this changed story was made more predictable by the deletion of trivial events. Readability levels were third, fourth, and fifth grades, respectively. Subjects were randomly assigned to each condition. The children read the story silently, and retold it in their own words before responding orally to a 10-item probed recall. There was a difference in mean probed recall scores for the three story conditions ($p < .025$), and scores were higher for the story structure/pronoun rewrite than the original version.

Mes-Prat, Margaret, & Edwards, Henry P. Elementary French immersion children's use of orthographic structure for reading. *Canadian Modern Language Review*, May 1981, *37*, 682-693.

Examines the use of orthographic structure in identifying French words and English pseudowords and nonwords by third- and sixth-grade native English speaking children enrolled in Eastern Canadian French immersion elementary schools. In such schools, English speaking students begin school exclusively in French, and in grades 2 and 3 are given one (typically 75 minute) period of English Language Arts a day. There were 19 subjects, all native English speakers, from each grade. Stimuli were 10 English words, 10 French words, and 10 words spelled the same in both languages. Using two transformation rules, each word was transformed into an orthographically acceptable structure and into an orthographically unacceptable structure. Stimuli were projected for 24 msec. and the subjects' task was to write the stimulus immediately after the exposure. The dependent variable was the percentage of correctly written stimuli. Grade 6 pupils scored significantly higher than grade 3 pupils on all three structures in both languages. Grade 6 children's recognition accuracies for words and pseudowords were not significantly different between French and English; but for grade 3 pupils, there was a significant difference between French and English for words and pseudowords. For both grades there was a significant difference between pseudowords and nonwords in both languages, through the difference was less pronounced for third graders.

Lange, Dale L., & Clausing, Gerhard. An examination of two methods of generating and scoring cloze tests with students of German on three levels. *The Modern Language Journal*, Autumn 1981, *65*, 254-261.

Examines two methods of generating and scoring cloze tests to assess German language proficiency by American University students. Subjects were 273 undergraduates enrolled in second, third, or fourth quarter German. All subjects read a 406 word story with an average clause length of 5.15 words and an average sentence length of 15.4 words. Half the subjects read the story with every fifth word deleted, half with one word randomly deleted from each of 50 natural clauses beginning at the same point as the fifth word format. Responses were scored using both exact and contextually acceptable procedures. Results indicate that nth word deletion format (every fifth word in this study), exactly scored, distinguished most clearly among the levels of student proficiency.

Hosseini, Jinoos, & Ferrell, William R. Measuring metacognition in reading by detectability of cloze accuracy. *Journal of Reading Behavior*, 1982, *14*(3), 263-274.

Proposes a means of assessing a metacognitive performance in reading using a combination of cloze and signal detection concepts. Subjects were non-native but fluent English speakers and included six adults (described as well educated and mature) for whom Latvian was the native language, five undergraduates for whom Arabic was the native tongue, and fiver undergraduates/graduates whose native language was Farsi. Cloze tests in both the native language and in English were administered. Cloze scores did not distinguish between the two languages. Subjects were also asked to classify their cloze responses in terms of their confidence in them as being accurate. The reliability coefficient for odd-even items for the cloze score was .452; for detectability of accuracy, .613. The accuracy measure was high for the native language even when the cloze score was lower.

Bachman, Lyle F. The trait structure of cloze test scores. *TESOL Quarterly*, March 1982, *16*, 61-70.

Assesses the performance of two groups of nonnative English speaking students entering undergraduate school in Fall (n = 316) and Spring (n = 102) on a 365-word passage. The passage, selected from one introductory social psychology book, was put into a 30-item cloze format with three specific deletion types: syntactic, cohesive, and strategic. Acceptable responses were determined by a native speaker pretest group and by alternatives derived from cohesion analysis. The cloze test was given as a part of placement battery at the beginning of a semester. The 30 items were grouped to form 13 sets, according to the similarity of item content. Composite scores were derived by averaging the item scores in each set. Product-moment coefficient correlations among the 13 composite scores provided the matrix for confirmatory factor analyses. Three factor models were posited to explain the correlation among the composite scores: a single factor underlying all 13 scores, three independent factors, and a general factor plus three specific trait factors. For the Fall group, the model which best provided a good fit for the data was the model of a general trait and three uncorrected specific traits. With the exception of one cohesive score, the composites loaded most heavily on the general factor, with lesser loadings on specific trait factors. This same general plus specific trait model was tested on the Spring group. The model provided a significantly good fit for this body of data, but less of a fit than for the original group.

STANSFIELD, CHARLES, & HANSEN, JACQUELINE. Field dependence-independence as a variable in second language cloze test performance. *TESOL Quarterly,* March 1983, *17,* 29-38.

Explores the relationship between student field dependent-independent cognitive style and second language test performance. Subjects were 293 university students enrolled in an introductory Spanish course. The *Group Embedded Figures Test* (GEFT) was used to assess the degree of field dependence-interdependence. Second language proficiency was judged through a variety of measures including: 1) written exam grade average, based upon written work throughout the course; 2) final exam grade; 3) oral grade average, based upon oral tests given during the course; 4) oral skill evaluation, based upon teacher ratings; 5) final course grade; and 6) cloze test performance. Resulting coefficients of correlation among the various language proficiency measures ranged from .60 to .93. Coefficients between GEFT score and language measures were all positive but modest, with the highest between GEFT and cloze performance.

SCHELL, LEO M. The validity of the potential level via listening comprehension: A cautionary note. *Reading Psychology,* July-September 1982, *3,* 271-276.

Cautions against the use of listening comprehension as a valid measure of reading potential in grades 1-3. Evidence is cited to show that the differences between the two are great in the primary grades and that they do not become approximately equal in achievement until about sixth grade.

FAGAN, WILLIAM T., & CURRIE, MARGARET A. Comprehension categorical differences and unit of language analysis. *The Alberta Journal of Educational Research,* June 1983, *29,* 98-109.

Examines the difference that unit of analysis makes in conducting content analyses. Sixteen recall protocols from sixth-grade pupils were analyzed according to three different language units (t-unit/incomplete t-unit, clause, and syntactic proposition) and then assigned to one of five comprehension categories (text exact, text specific, text entailed, text experiential, and text erroneous). A significant relationship was found between t-unit/incomplete t-unit and clause, suggesting that they would lead to similar conclusions. However, the use of syntactic proposition would yield a different profile.

GONZAGA, FRANCESCA ESTRELLA. Metaphorical language and the disadvantaged student. *Florida Reading Quarterly,* December 1982, *19*(2), 19-20.

Assesses whether differences exist in ability to interpret metaphorical language between 246 nondisadvantaged and 143 disadvantaged sixth graders in two urban elementary schools. All were administered the 60-item *Tullos Test of Metaphorical Language Interpretation.* Nondisadvantaged sixth graders tended to do better in the interpretation of figurative language than did the disadvantaged.

Whyte, Jean. Metaphor interpretation and reading ability in adults. *Journal of Psycholinguistic Research*, September 1983, *12*, 457-465.

Investigates the interpretation of 16 metaphoric phrases in the form of propositions linking two nouns and an adjective by 20 adult literacy students classified as poor readers and 22 classified as normal readers. All were attending literacy centers in Northern Ireland. Metaphoric phrases were placed in sentences matched for length, and then sentences were randomly ordered. Phrases were administered orally and shown in sentences on cards. Each subject responded individually, explaining the meaning of the phrase. Responses were categorized as: magical, metonymic, primitive metaphoric, genuine metaphoric, inappropriate metaphoric, and incomplete metaphoric. Numbers of misinterpretations were summed for each subject, as well as correct responses. Responses were also scored as to whether they went beyond concrete or sensory referents. No significant differences were found between good and poor readers on the number of correctly understood metaphors. The groups did differ, however, on the level of language used to express the meaning, with normal readers using more abstract/psychological referents and poor readers using more concrete/sensory referents. Poor readers also had difficulty recognizing and reconciling items where opposites such as "rough diamond" were included. A significant relationship was found between performance IQ and level of interpretation or misinterpretation, with the relationship higher for poor readers. Normal readers scored significantly higher on the *Mill Hill Vocabulary Scale*, and significant correlations were found among vocabulary scores, metaphor interpretation, and explication scores.

Taylor, Insup. Writing systems and reading. In G.E. MacKinnon and T. Gary Waller (Eds.) *Reading Research: Advances in Theory and Practice*, Vol. 2. New York: Academic Press, 1981, 1-51.

Reviews research into the nature of different writing systems and how they affect reading and learning to read. Similarities and differences between reading Japanese, Korean, Chinese, and English orthographics are discussed.

Finucci, Joan M.; Isaacs, Sarah D.; Whitehouse, Catherine C.; & Childs, Barton. Classification of spelling errors and their relationship to reading ability, sex, grade placement, and intelligence. *Brain and Language*, November 1983, *20*, 340-355.

Investigates the effect of reading ability, sex, grade level, and intelligence on types of spelling error. The subjects in the study consisted of: Group I – 69 disabled readers (59 boys and 10 girls) from a large city school system; Group II – 85 siblings of the children in Group I enrolled in grades 3 through 12 in the same system (48 and 37 girls); Group III – 241 children (127 boys and 114 girls) randomly selected from grades 3 through 12 in the system; Group IV- 88 boys from grades 7 through 12 who attended a school for boys with specific reading disability. Subjects were administered either the *WISC-R*, the *WAIS*, or the *Weschler-Bellevue IQ Test;* the *Gray Oral Reading Test;* and the spelling subtest of the *WRAT.* Spelling errors were classified as phonetic or dysphonetic. No differences due to sex were found and there were no consistent effects of IQ or grade level or type of spelling error. Disabled readers as a group were found to be more likely to produce dysphonetic errors than normal readers ($p < .01$), except in Group I. Other significant interactions are reported.

Hofmann, Richard J., & Kerek, Andrew. Reading comprehension as predictor of growth in syntactic maturity and writing quality in the first two and one-half years of undergraduate study. *Perceptual and Motor Skills*, April 1983, *56*, 595-600.

Reanalyzes data collected on 290 students enrolled in freshman English classes in which sentence combining had been stressed or in control classes. The composite score on the Sequential Test of Educational Progress (STEP) had been used as a pretest/posttest measure. The role of reading as a predictor of syntactic maturity and writing effectiveness at the beginning of the freshman year was investigated. In addition, changes in writing ability from the freshman year to the middle of the junior year was viewed, focusing on three groups identified by the reading pretest: the lowest, middle, and highest thirds. Only 133 of the original group remained. Multiple-group discriminant analysis was used to determine what multivariate differences existed among the groups on eight writing variables. Results indicated no consistent multivariate relationships between reading and writing.

Yager, Robert E. The importance of terminology in teaching K-12 science. *Journal of Research in Science Teaching*, September 1983, *20*, 577-588.

Analyzes 25 of the most commonly used textbooks in K-12 science classrooms in terms of occurrence of special/technical words. The number of special/technical words on every tenth page of each of the texts was counted. At first grade level, the average number of special words per page in the two textbooks analyzed was 2.3 and 5.3 with total number of special words in each book being 351.9 and 848. For grade six, these figures were 7.4 and 8.9 special words per page and 2,775 and 3,408.7 special words in each book. At the high school level, texts ranged from 10.9 to 22.6 special words per page and from 7,346.6 to 17,130.8 special words per book. The number of new words in science often approaches the total number that could be expected in terms of total vocabulary increase at a given grade level for a given student.

DeStefano, Johanna S.; Pepinsky, Harold B.; & Sanders, Tobie S. Discourse rules for literacy learning in a classroom. In Louise Cherry Wilkinson (Ed.) *Communicating in the Classroom*. New York: Academic Press, 1982, 101-129.

Investigates the interactions between pupils and teacher during literacy instruction in a first grade classroom. The discourse of an experienced teacher and three boys (one from the cultural mainstream, one from inner-city black culture, and one from the Appalachian culture) was video- and audiotaped on three consecutive days during the third week of school, after conclusion of the first grading period and at the beginning of the second semester. The grammatical structuring of subject's talk, the discourse, and the cohesion of the discourse were analyzed using schemes or adaptations of schemes that had been previously published. It was found that the teacher talked the most, and on all occasions pupil's discourse mainly consisted of responses to her initiations. There was relatively little cohesion in the talk, either of the teacher over time or between the teacher and her pupils. The talk centered on states or actions with an accompanying reference to objects and with infrequent talk about processes. All three children learned to respond appropriately during instruction, although each was different in how effectively he was learning to read.

IV-9 Vocabulary and word identification

Allport, Alan. Word recognition in reading. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 227-257.

Reviews research in word recognition in reading in order to provide a theoretical framework for interpreting the role of lexical knowledge in pre-attentive processing and the conscious perception of written words. The role of phonological coding, orthographic regularity and lexicality are discussed and a theoretical model for the mental lexicon outlined. Two models of perceptual integration are critically examined and modifications suggested.

MORTON, JOHN. The logogen model and orthographic structure. In Uta Frith (Ed.). *Cognitive Processes in Spelling.* New York: Academic Press, 1980, 117-133.

Describes an expanded logogen model of processing linguistic material, which includes writing and spelling. Data from a case study of a brain-damaged subject are used to support the revisions.

BESNER, DEREK, & SWAN MARGARET. Models of lexical access in visual word recognition. *Quarterly Journal of Experimental Psychology,* May 1982, *34A*, 313-325.

Investigates lexical access in visual word recognition. Adult subjects (n = 34) performed a lexical decision task on 40 words and 40 non-words in two conditions. Stimuli were either presented clearly or degraded by the superimposition of a random series of white dots. Subjects responded to all items, which were displayed on a CRT screen. Stimuli were repeated, and reaction times and error rates calculated. There were significant effects between subjects for Repetition, Degradation, and their interaction in both word and non-word conditions. The effects of Repetition, Degradation, and their interaction were also significant across subjects for the word data. Results were taken as inconsistent with Morton's Logogen model.

KIRSNER, KIM; MILECH, D.; & STANDEN, P. Common and modality-specific processes in the mental lexicon. *Memory and Cognition,* November 1983, *11*, 621-630.

Presents eight experiments attempting to resolve 1) empirical inconsistencies in repetition effects under intermodality conditions in word identification and lexical decision, and 2) an associated theoretical conflict concerning lexical organization. In the first three experiments, 14 undergraduate volunteers participated; in Experiments 4-8, 12 undergraduates were used in each experiment. Results indicated that 1) significant facilitation occurs under auditory-prime/visual-test (AV) conditions as well as under visual-prime/visual-test (VV) conditions, 2) more facilitation occurs under VV than under AV conditions, and 3) the additional facilitation effect generally observed for low-frequency words exerts its influence equally under inter- and intramodal conditions. Repetition effects observed for VV and AV conditions were found to be insensitive to: 1) a variety of encoding tasks designed to emphasize the different properties of words, and 2) differences in the ease of encoding of isolated auditory and visual words.

FLETCHER, BEN C. The role of category information in word identification: A parallel decision model. *Memory and Cognition,* May 1983, *11*, 237-250.

Reports a series of four experiments which explored the functional value of category processing in word recognition. Adult subjects performed a two-choice classification task in which words were presented singly and successively and reaction times to target and nontarget words were recorded. Tasks were altered by manipulating the semantic relationships between target and nontarget words to assess which semantic conditions facilitate or interfere with word identification. In general, the results found that word identification can be facilitated or interfered with depending upon the nature of decision required, the semantic homogeneity of the background words, and the semantic relationship between the target and nontarget words.

KAY, JANICE, & MARCEL, ANTHONY. One process, not two, in reading aloud: Lexical analogies do the work of non-lexical rules. *Quarterly Journal of Experimental Psychology,* November 1981, *33a*, 397-413.

Investigates the processing of words by use of an analogy strategy in oral reading. Adult subjects (n = 25) read phonologically ambiguous nonwords preceded by similar words or nonwords in six conditions: irregular word, same orthography (HEAD, YEAD); regular word, same orthography (BEAD, YEAD); irregular word, different orthography (HOOD, YEAD); non-word, different but consistent orthography (YOLD, YEAD); rhyming word, different orthography, irregular pronunciation (SHED, YEAD); rhyming word, different orthography, regular pronunciation (GREEK, PREAK). An analysis was made to discover whether the preceding letter string affected the pronunciation of the ambiguous non-words. For both regular and irregular pronunciations there was an effect of treatments ($p < .001$), the first condition being different from all the others ($p < .05$) in both cases. For irregular pronunciations the second condition also differed from conditions three and five ($p < .05$), while for regular pronunciations there was a difference between conditions two and three ($p < .05$). It is concluded that the pronunciation of a non-word can be influenced by the pronunciation of a preceding word containing a matching segment.

Bouwhis, Don G. Word knowledge and letter recognition as determinants of word recognition. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 269-281.

Reports an experiment investigating the role of word knowledge and letter recognition in reading. Adult Dutch subjects (n = 30) completed a lexical decision task on all three-letter Dutch words and similar nonwords. Words varied in familiarity and non-words were either regular (pronounceable) or irregular (unpronounceable). Response time was slower for unfamiliar words over familiar words, and for less obvious non-words over definite non-words. The most known words were not classified faster than the most definite non-words. Frequency of word occurrence had only a minor effect. Significance levels were not reported. It is argued that the incorporation of differential word familiarity into the vocabulary of a model could improve its predictions of word recognition.

Osaka, Naoyuki. Minimum duration necessary for integration of briefly presented letters. *Bulletin of the Psychonomic Society*, December 1981, *18*, 309-310.

Measures minimum duration and interstimulus interval (ISI) necessary for the perceptual recognition of letters presented over a brief temporal interval. Subjects were 15 Japanese undergraduates presented with five kana letters on a screen. Two conditions were introduced: 1) a noninstructed condition, in which subjects were not informed what letter string would be shown; and 2) an instructed condition, in which subjects were told what letter string would appear. Letters were presented successively and duration of fixation was kept constant at two seconds. The mean minimum duration time for the noninstructed condition was about 230 msec. and about 140 msec. for the instructed condition. In a second similar experiment, a blank ISI was introduced between stimulus conditions. The ISI was varied from 17 to 510 msec. in steps of 17 msec. Eight undergraduates served as subjects. They were not informed about the stimulus. The total time necessary for integration, 213 msec., remained about the same as for the iconic storage duration. The author suggests that during fixation between saccades, the content of the iconic storage could be registered.

Mozer, Michael C. Letter migration in word perception. *Journal of Experimental Psychology: Human Perception and Performance*, August 1983, *9*, 531-546.

Gives results of four experiments studying the letter migration phenomenon. Subjects numbered 24, 16, 16, and 24, respectively, in the four experiments and were all undergraduates except for those in Experiment 4 which utilized both students and staff. Pairs of four-letter words were briefly presented and subjects were required to report one or both of the words. Word pairs were selected so that either of two letters of one word could be substituted into the corresponding position of the other word and thereby form a new word (LINE/LACE). Findings revealed that: 1) letter migrations were more frequent between words separated by smaller physical distances; 2) a majority of migrations were the result of letters being copied from one word to the other rather than from the interchange of letters of the two words; 3) migrations to a word were less frequent when a subject's attention was focused on that word; and 4) migrations were more frequent when words shared letters in common.

Davidoff, J.B.; Beaton, A.A.; Done, D.J.; & Booth H. Information extraction from brief verbal displays: Half-field and serial position effects for children, normal and illiterate adults. *British Journal of Psychology,* February 1982, *73,* 29-39.

Asks whether there are differences in the way in which adult illiterates, normal adult readers, and children learning to read obtain information from tachistoscopic letter arrays. Subjects were 12 adult males attending an adult literacy program, 12 adult controls matched for age with the illiterates, and 12 eight-year-old boys matched for reading age with the illiterates. All subjects were administered the *Burt Word Reading Test.* Three types of stimuli were presented: 1) consonant trigrams, 2) CVC nonsense syllables, and 3) 12 three-letter words. Letter strings were shown to the right or left visual field, and subjects were to recall the letters. No significant differences were noted among the three groups in the size or direction of visual field asymmetries which were not independent of performance level. Normal adults showed markedly different serial position curves from the other groups. Findings suggested that the manner in which information is extracted from visual displays varies with level of reading ability but is not affected by the age at which reading skills are acquired.

Gordon, Barry, & Caramazza, Alfonso. Lexical decision for open- and closed-class words: Failure to replicate differential frequency sensitivity. *Brain and Language,* January 1982, *15,* 143-160.

Examines, in three experiments, lexical decisions for open- and closed-class words in order to replicate previous studies. All subjects were college students (n = 28, 20, 37). Open class words (nouns, verbs, adjectives) and closed class words (prepositions, conjunctions, and auxiliaries) and nonwords were displayed on a video screen. Reaction time to identify those stimuli that were words was the dependent variable. Also, the Kucera-Francis frequency of each word was determined. Experiment 2 was the same, but with words chosen to permit a more exhaustive examination of the very highest-frequency open-class words and the lowest-frequency closed-class words. In Experiment 3, the same procedures and stimuli were used, but the response required subjects to indicate yes for real words and no for nonwords. Both classes of words shared similar reaction times in all three experiments. Further, there were no significant differences for word frequencies less than 316/million and above 399/million.

Kahneman, Daniel, & Chajczyk, Diane. Tests of the automaticity of reading: Dilution of Stroop effects by color-irrelevant stimuli. *Journal of Experimental Psychology: Human Perception and Performance,* August 1983, *9,* 497-509.

Presents four experiments, investigating whether the reading of color words in the Stroop situation is susceptible to interference from other objects in the visual field. Subjects were all undergraduates and numbered 12, 16, 20, and 12, respectively. The presentation of a color word in the vicinity of a color bar facilitated color naming when it was congruent with the correct response; otherwise it interfered with color naming. The congruence and conflict effects were both diminished by presentation of a color-neutral word elsewhere in the field. The diminishing or dilution effect was interpreted from findings as representing attentional interferences rather than sensory interaction or response conflict. It is concluded that the involuntary reading of color words does not satisfy one of the standard criteria of automaticity, absence of attention demands.

Samuel, Arthur G.; van Santen, Jan P.H.; & Johnston, James C. Reply to Matthei: We really is worse than you or them, and so are ma and pa. *Journal of Experimental Psychology: Human Perception and Performance,* April 1983, *9,* 321-322.

Reacts to a critique of an earlier study. The critique suggested that the advantage found for word length over single letters in tachistoscopic testing situations might have been due to a confounding of length with lexical class. An item analysis is given which separates word length and lexical class. The analysis indicates that word length and not lexical class accounts for the word advantage.

MATTHEI, EDWARD H. Length effects in word perception: Comment on Samuel, van Santen, and Johnston. *Journal of Experimental Psychology: Human Perception and Performance*, April 1983, *9*, 318-320.

Argues that the apparent length effect found in a previously published report may be the result of a lexical class effect rather than of word length. Notes that in the stimulus sets used in the study, words of Length 2 were predominantly function words whereas those of Lengths 3 and 4 were predominantly content words. The author hypothesizes that recognition accuracy for content words may be greater than for closed class or function words; therefore, the length effect may have been confounded with the lexical class effect.

HABER, LYN R.; HABER, RALPH NORMAN; & FURLIN, KAREN R. Word length and word shape as sources of information in reading. *Reading Research Quarterly*, Winter 1983, *18*, 165-189.

Assesses 24 university freshmen and sophomores, 12 assigned to a silent reading group and 12 assigned to an oral reading group, reading passages at different levels of difficulty presented one or two lines at a time, and ending randomly in the middle of the sentence. Subjects were to guess what the next word would be when information provided about that word was missing, when its length was given, when the shape of its envelope was included, when the word following was identified, or when a combination of these conditions was present. Effects of condition, difficulty, and position were all significant ($p < .001$), but no interaction effects approached significance. The addition of any information about the target word increased the accuracy of a guess. All word type identification improved with length information, whereas only functors and nouns benefitted from shape information. Combining shape with length reduced the percentage of correct responses. Errors were different for different parts of speech. Length and shape information had little effect on semantic appropriateness.

HECKER, NELLY M. A study of performance on word boundary tasks as related to reading ability. *Journal of Reading Behavior*, 1982, *14*, 13-32.

Presents data collected on 80 third-grade pupils, 75 fifth-grade pupils, and 98 seventh-grade pupils drawn from 13 classrooms and stratified on the total reading percentile of the *Comprehensive Test of Basic Skills*. Word boundary tasks using coherent rather than random passages were constructed from four basal stories. Six different scores were determined for each passage: percentage of total words correctly marked, error score based on number of slashes incorrectly marked, number of correct words set aside with slashes, number of words that the subject attempted to read, number of errors/number of words attempted, and number of correct words/number of words attempted. Subjects also completed cloze tasks using every fifth-word deletion patterns and word recognition tests sampling the words appearing in the passages and presented amid real word distractors. The word boundary task appeared to be a reliable and valid measure of reading performance and could serve as an alternative to informal word recognition testing and cloze procedures. Level of reading acquisition, level of passage readability, and grade placement of subjects all affected performance on word boundary tasks. Passages which were too difficult or too easy yielded similar scores for high and low readers.

Healy, Alice F.; & Drewnowski, Adam. Investigating the boundaries of reading units: Letter detection in misspelled words. *Journal of Experimental Psychology: Human Perception and Performance*, June 1983, *9*, 413-426.

Investigates the boundaries of reading units in a series of three experiments. In the first experiment, undergraduates ($n = 116$) performed a letter *t* cancellation task on a 100-word prose passage. Every instance of the letter *t* was part of the letter string 'the' in 36 words. Eighteen test words in each version were misspelled by replacing 'the' with 'teh.' Subjects made more errors on the word 'the' than on other test words ($p < .001$), and on correctly spelled than misspelled words ($p < .001$), and there was an interaction between the two factors ($p < .001$). In the second experiment, undergraduates ($n = 192$) either proofread or performed a letter *t* detection task on passages in upper or lower case. The shape of words was manipulated by a variety of letter substitutions. In both proofreading and letter cancellation tasks, there were more errors with capital than standard format ($p < .001$) and on misspelled than on correctly spelled words ($p < .001$). There were effects for substitution type and various interactions. In the third experiment, the same subjects performed similar tasks to those in the second experiment except the letter cancellation was for *n*. In addition, the passage was presented in four versions: normal, with an addition sign between words, without any spacing between words, and in mixed upper and lower case. The error rate was greatest in the standard passage and least in the mixed passage ($p < .001$), although the effect depended on the nature of the test word type. Subjects made more errors on the word 'and' than on other test words, and on words with the '-ing' suffix than on rare words with penultimate *n*s (p .001). Results are interpreted as evidence that function words are processed in terms of reading units that are larger than the letter and include the interword spaces.

Healy, Alice F.; Volbrecht, Vicki J.; & Nye, Terry R. The effects of perceptual condition on proofreading for misspellings. *Memory and Cognition*, September 1983, *11*, 528-538.

Reports two experiments in which adult subjects ($n = 24$, $n = 48$) proofread text containing misspelled words in different perceptual conditions. To create the misspellings there were six types of substitutions: e for c, c for e, g for c, c for g, o for c, c for o. In Experiment 1 the passage was presented in upper- or lower-case, and either typed or on a CRT screen. There was no effect for type of display or typecase, but a main effect of letter pair ($p < .001$) and other significant interactions are reported. In Experiment 2 the quality of the copy was varied. The subjects read either a high quality copy, a copy in which hyphens were superimposed on some characters, a copy in which slashes were superimposed on some characters, or a ditto copy with blurred printing. The passage was again presented in upper- or lower-case. All main effects and several interactions were significant. The authors conclude that proofreaders give first priority to resolving letter envelope and second priority to resolving other letter features. Where letter envelope was not altered, subjects tolerated misspellings that resulted in missing letter features but not those that added features.

Monk, Andrew F.; & Hulme, Charles. Errors in proofreading: Evidence for the use of word shape in recognition. *Memory & Cognition*, January 1983, *11*, 16-23.

Investigates the effect of word shape on the detection of misspellings when reading a passage for meaning. In the first experiment undergraduates ($n = 60$) read a passage for comprehension in one of four conditions: with a nonascending letter deleted from 40 base words, with an ascender deleted, a nonascender substituted, and an ascender substituted. Base words were between four and eight letters long and were equally pronounceable in each condition. Subjects were required to circle misspellings as they read. Words with letters deleted were circled less than words with substituted letters ($p < .01$), and words with a different shape circled more than those with the same shape ($p < .05$). There was no interaction effect. In the second experiment sixth-form students ($n = 60$) completed the same task with mixed upper- and lower-case letters. There was no effect for word shape or interaction, but the deletion/substitution condition was significant ($p < .05$).

BESNER, DEREK; DAVIES, JULIA; & DANIELS, SHONA. Reading for meaning: The effects of concurrent articulation. *Quarterly Journal of Experimental Psychology.* November 1983, *33A*, 415-437.

Reports six experiments (ns varying from 25 to 46 subjects, mostly undergraduate psychology students) which concentrated on the assertion that phonological recoding for the purpose of lexical access in visual word recognition is prevented or impaired by concurrent articulation (articulatory suppression). Reports that Experiments 1 and 2 failed to replicate previous work. Experiment 3 contrasted performance with visually presented words and with nonwords. Latency measures showed an effect of suppression that was specific to words, while error rates showed an effect common to both words and nonwords. Experiment 4 showed that if only the tasks were changed from a judgment of rhyme (BLAME-FLAME) to one of homophony (AIL-ALE), the suppression effect detected in the latency data was eliminated, while error effects remained. Experiment 5 revealed that while suppression had no effect on the time taken to decide if printed nonwords sound like real words, error rates increased. Experiment 6 showed that suppression had no effect on either RT or errors in the same task if subjects suppress at a slower rate than in Experiment 5. It was suggested that there are at least two different phonological codes. Buffer storage and/or maintenance of phonologically coded information derived from print is affected by suppression; phonological recoding from print for the purpose of lexical access can be carried out without any interference from suppression.

UNDERWOOD, GEOFFREY, & THWAITES, SANDRA. Automatic phonological coding of unattended printed words. *Memory and Cognition*, September 1982, *10*, 434-442.

Investigates the phonological coding of printed words prior to semantic processing in two experiments. In the first experiment 16 adult subjects performed a lexical decision task on 120 letter strings, which were paired with another letter string presented peripherally. The four pair types presented word-word, word-nonword, nonword-word, and nonword-nonword. Primary interest was focused on the word-word pairs which were equally subdivided into three critical conditions and two control conditions. The former conditions were incongruously related homophone (RUBBISH-WAIST), congruously related homophone (RUBBISH-WASTE), and nonhomophonic related word (RUBBISH-TRASH). The control conditions were homophonic unrelated word (GREEN-BEAR), and nonhomophonic unrelated word (SMILE-THING). The hypothesized differences between the critical and control conditions were observed ($p < .05$). In the second experiment with 14 adult subjects, the same conditions applied as in the first experiment except all nonwords were pseudo-homophones of words other than those used in the experiment. It was suggested this would discourage reliance on a phonological representation prior to the lexical decision. Similar results were obtained. It was concluded that printed words are automatically processed into a phonological code after lexical access.

TAFT, MARCUS. An alternative to grapheme-phoneme conversion rules? *Memory & Cognition*, September 1982, *10*, 465-474.

Reports four experiments investigating the hypothesis that the pseudo-homophone effect in a lexical decision task is not due to the generation of a phonological representation via grapheme-phoneme conversion rules, but that increased reaction times result from pseudohomophones being orthographically similar to real words. Adult subjects ($30 \leq p \leq 10$) were presented in a variety of conditions with pseudohomophones, nonhomophones that were orthographically similar to a word, nonhomophones that were not orthographically similar to a word, and nonwords that differed in their degree of phonological similarity to real words. In two experiments a lexical decision task was performed, and in the other two experiments subjects were required to judge whether a letter string was pronounced like an English word. Results were taken to support the hypothesis.

Humphreys, Glyn W.; Evett, Lindsay J.; & Taylor, David E. Automatic phonological priming in visual word recognition. *Memory and Cognition*, November 1982, *10*, 576-590.

Investigates in a series of four experiments whether phonological information is automatically accessed in visual word recognition. In the first experiment, adults (n = 28) were presented with words and a prime in four conditions: same identity (made-MADE), homophone (maid-MADE), graphemic control (mark–MADE), and unrelated control (ship-MADE). Target words were presented in uppercase and primes in lower case on an oscilloscope. The priming technique used a display sequence of mask, prime, target, mask. Subjects wrote their responses in the case in which they thought the words were presented. The same condition produced more correctly identified target words than the homophonic condition (p< .01), and the homophonic condition than the graphemic control condition (p< .01). In the second experiment, subjects (n = 1[illegible]) performed the same task as in the first experiment except the graphemic control was constructed so that the prime was a non-word, containing all the letters that were in common between the prime and target in the homophonic condition. Results replicated the findings of the first experiment. In the third experiment, subjects (n = 28) performed a similar task, except with a pseudohomophonic condition replacing the homophonic condition. The same identity condition was better than the other conditions (p< .01) and graphemic control and pseudohomophonic condition better than the unrelated control condition (p< .05). There was no difference between the graphemic control and pseudohomophonic conditions. In the fourth experiment, the same condition was omitted, but the target was either a regular or an exception word. Subjects (n = 24) performed the same task as in the previous experiments. Similar results were obtained plus irregular words were correctly identified more often than regular words (p< .025). Results are interpreted as evidence for automatic access to phonology via a lexical route in visual word recognition.

Parkin, Alan J. Phonological recoding in lexical decision: Effects of spelling-to-sound regularity depend on how regularity is defined. *Memory & Cognition*, January 1982, *10*, 43-53.

Conducts four experiments to examine the relation of spelling-to-sound regularity or phonological recoding in lexical decision tasks. Argues at length that previous definitions and roles of regularity were incomplete and that many words assigned the status of exceptions to regular spelling-pronunciation rates were indeed not so irregular. There were 8 to 18 adult subjects in each experiment. In all experiments, subjects viewed words and nonwords projected on a projection screen. The dependent variable of Experiments 1, 2 and 4 was the time to report the stimulus as a word or nonword. Pronunciation speed was the dependent variable for Experiment 3. Three types of words were used as stimuli: words with pronunciation that were exceptions to spelling-to-sound rules, but had that exception listed in the *Oxford Paperback Dictionary;* exception words with no listed pronunciations, and regular words. Lexical decision responses were longer for unlisted exception words than for the other two types, but nonlisted exception words did not differ from regular words. This finding was replicated when pronunciation speed was the dependent variable and when subjects were given speeded-response instructions. Concludes that there is a phonological recoding system in reading words, and that this system is more flexible than previous research had indicated.

Parkin, Alan J., & Ellingham, Richard. Phonological recoding in lexical decision: The influence of pseudohomophones. *Language and Speech*, January-March 1983, *26*, 81-90.

Determines differences in lexical decision times on words of regular and irregular spelling-to-sound correspondence. The 16 British university undergraduates were placed in one of two nonword conditions: NW, in which all nonwords were orthographically regular but not pseudohomophones, and PS in which 50% of the nonwords were pseudohomophonic. Forty irregular words and 40 regular words were matched in terms of frequency, part of speech, and length. Two sets of 80 nonwords were then constructed. Subjects were shown strings and asked to determine whether or not each was a real word. Irregular words were identified more slowly than regular words in both conditions. Lexical decision latencies to pseudohomophones and real words increased significantly across blocks in the PS condition but not in the NW condition. Lexical decision latencies to pseudohomphones, while initially longer than those to normal nonwords, decreased in size across the experiment to a point at which they did not differ from normal nonwords.

HULME, CHARLES, & RICHARDSON, JANE RYDER. The effects of articulatory suppression on reading ideographic and alphabetic numbers. *Quarterly Journal of Experimental Psychology,* May 1981, *33A,* 121-132.

Reports findings from three experiments investigating the effects of articulatory suppression on reading numbers written alphabetically or as Arabic numerals. In Experiments 1 and 3, subjects were 28 and 15 adults, respectively, in Experiment 2, 20 nine-year-olds were used. In Experiments 1 and 2, subjects scanned lists of numbers as quickly and accurately as possible, checking each one which was larger than the immediately preceding one. Subjects saw four lists of 50 random numbers (1-9) in each script type in balanced order. On suppression trials, the alphabet was to be recited repeatedly as quickly as possible. For Experiment 2, the task was the same except that the lists of numbers were shortened to 25 and the suppression task was changed to counting repeatedly from 1 to 10. Suppression was found to have about equal effects on the reading of both types of numbers. Experiment 3 was similar but three types of stimuli were used: Roman numerals, alphabet numbers, and rows of asterisks. Articulatory suppression consisted of counting backwards from 10 to 1. The reading of both alphabetic and Roman numerals was affected by suppression, but there was little effect on processing asterisks. It is concluded that while alphabetic and numerical representations of numbers may be processed differently, there is no evidence that reading alphabetic numbers involves phonological encoding prior to lexical access.

ANREWS, SALLY. Phonological recoding: Is the regularity effect consistent? *Memory & Cognition,* November 1982, *10,* 565-575.

Reports two experiments investigating the dual-access theory and the activation and synthesis models of word identification. In the first experiment undergraduates (n = 42) completed a lexical decision task in one of two conditions, where the stimuli were a list of words and nonwords either containing pseudohomophones or not. Half of the letter strings were either high or low frequency four-letter words with each of the latter categories being divided equally into regular and irregular words. There was an effect of word frequency in both conditions, and the response latencies to low frequency words was longer when pseudohomophones were present. No effects were found for regularity. In the second experiment subjects (n = 43) performed a naming task on the same stimuli in one of two conditions—words only, or words and non-words. There was an effect of word frequency in both conditions, and regularity effects were evident for low frequency words when only words had to be named. Results were interpreted as requiring a model incorporating elements of both the dual-access and the activation and synthesis models.

LUPKER, STEPHEN J. The role of phonetic and orthographic similarity in picture-word inference. *Canadian Journal of Psychology,* September 1982, *36,* 349-367.

Focuses on the effects of orthographic and phonetic similarity between the word and the picture's name on picture processing. Two experiments are reported, both using 20 undergraduates as subjects. The first studied the orthographic similarity effect in picture-word interference; the second, the influence of phonetic similarity. In Experiment 1, pairs of words were selected identical in spelling except for their first letters. Also the single vowel sounds were different in their standard pronunciations (hand-wand). In one condition, one member of each pair became the word and the other, the picture. In Condition 2, the same words appeared on an unrelated picture. In Condition 3, the pictures appeared without a letter string superimposed. In Experiment 2, there were nine pairs of words but their initial phoneme differed and only one other letter was the same (plane-brain). Other conditions were similar to Experiment 1. Both factors facilitated picture naming in comparison to an unrelated word condition. The data further suggested that the locus of this facilitation appeared to be in the name-retrieval process with orthographic and phonetic information from the word aiding in the search for the picture's name.

READ, J. DON. Detection of Fs in a single statement: The role of phonetic recoding. *Memory and Cognition*, July 1983, *11*, 390-399.

Presents a series of five experiments designed to clarify the basis for difficulty in detecting the letter *F* in a single statement. All subjects were British university students and total numbers in Experiments 1-5 were 356, 275, 145, 369, and 33, respectively. In separate conditions and experiments, subjects first memorized or copied a statement; detected the O in OF, the N in ON, or the F in IF; or read a statement in a number of physical formats, including upper- and lower-case letters, scrambled syntax, unsegmented letter strings, and vertical list presentation. While performance was sometimes improved significantly as a result of these manipulations, in none was there perfect performance or performance comparable to the detection of F in IF. The author suggests that the hypothesis best explaining the phenomenon is that of phonetic recoding: subjects in the letter-detection tasks frequently scanned their acoustic images rather than their visual images. Subjects appear to miss the F in OF largely because of its atypical or nonmodal pronunciation.

BESNER, DEREK, & DAVELAAR, EILEEN. Basic processes in reading: Two phonological codes. *Canadian Journal of Psychology*, December 1982, *36*, 701-711.

Reports two experiments investigating whether the phonological code that can be used to gain lexical access from print is identical to the one that can be used for the maintenance of information in short term memory. In Experiment 1, undergraduates (n = 16) viewed letter strings, half of which were pseudohomophones and half of which were pronounceable matched controls where one or two letters had been altered. Stimuli also varied in phonological similarity (confusability) and were presented either quietly or where subjects counted aloud as a form of suppression. Subjects were required to recall items after each trial, which consisted of four items presented successively. The effects of lexicality, suppression and confusability were all significant ($p < .025$) and the interaction between suppression and confusability was also reliable ($p < .01$). In Experiment 2, subjects ($n = 16$) performed a similar task with stimuli which varied in syllable length instead of phonological similarity. Lexicality, suppression, and syllable length all had reliable effects ($p < .001$), as did the interactions of suppression and syllable length ($p < .01$) and suppression and lexicality ($p < .05$). The results are interpreted as evidence of two dissociable phonological codes derived from print.

ROBERTS, KATHLEEN T., & EHRI, LINNEA C. Effects of two types of letter rehearsal on word memory ins killed and less skilled beginning readers. *Contemporary Educational Psychology*, October 1983, *8*, 375-390.

Compares two word-study approaches to spelling. Matched pairs of subjects were formed from a sample of 54 second graders. All pupils were taught to read and define 10 pseudowords before training began. Experimental subjects were taught how to imagine the spellings of words while control subjects used copying-type activities with target words in view. Six posttests assessed spelling, word pronunciation, oral spelling, spelling recognition, picture-word matching, and word definitions. Significant differences were found in favor of the word-imagining group on spelling but not on word identification or word meaning tasks. A follow-up aptitude-treatment interaction analysis revealed one significant interaction in word-reading accuracy. An analysis of trials to criterion during the training phase found that high and low readers differed more in learning pronunciations than in learning word meanings.

Groff, Patrick. A test of the utility of phonics rules. *Reading Psychology,* July-December 1983, *4,* 217-225.

Investigates whether pupils who hear mispronounced words in a story-like context can infer and produce true pronunciations of these words. Words mispronounced followed phonics rules for pronunciation but had irregular spellings. Subjects were 49 second graders, the majority of whom were slightly above grade level in reading ability, who were tested individually. Fourteen key words were pronounced as if they conformed to set phonics rules for "long" and "short" vowels. Twenty-three pupils inferred and produced the correct pronunciations of all the 14 mispronounced words read aloud to them; 53% failed to infer and produce the correct pronunciation of at least one of the 14 words read to them.

Hall, James W.; Wilson, Kim P.; Humphreys, Michael S.; Tinzmann, Margaret B.; & Bowyer, Paul M. Phonemic-similarity effects in good vs. poor readers. *Memory and Cognition,* September 1983, *11,* 520-527.

Utilizes a series of five experiments in examining differences in phonemic confusions between good and poor readers. In the first four experiments, elementary school children in grade two (Experiment 1) and grades three and four (Experiments 2, 3, 4) were identified as good or poor readers. Numbers of good/poor readers were in each experiment, respectively, 15-17, 14-14, 14-15, and 14-14. In Experiment 5, 12 undergraduates served as subjects. Poor readers were selected so that the achievement deficit centered in reading as opposed to being a function of general low-achievement. The first three experiments examined immediate serial recall of rhyming and nonrhyming letter strings; Experiment 4 used word lists; Experiment 5 used rhyming and nonrhyming letter lists under either standard or high-difficulty conditions. The two groups of readers did not differ in their susceptibility to phonemic similarity either with letter lists or with word lists. College students showed almost no sensitivity to phonemic similarity under the high-difficulty conditions but did display a phonemic-confusion effect at a moderate level of difficulty. With children also phonemic-confusion effects were reduced when task difficulty levels were high. Differences between the findings of these experiments when compared with previous ones are explored.

Evett, Lindsay J.; & Humphreys, Glyn W. The use of abstract graphemic information in lexical access. *Quarterly Journal of Experimental Psychology,* November 1981, *33A,* 325-350.

Reports three experiments investigating the nature of information required for the lexical access of visual words. In the first experiment, adult subjects ($n = 14$) were presented with 80 word pairs in a naming task. Each subject received four treatments: 1) the prime and target had the same identity; 2) the prime and target were associated; 3) the prime and target were unassociated; and 4) the prime was a nonword. Targets were always in upper case and primes in lower case. A four-field masking procedure was used, in the order mask-prime-target-mask. There was a facilitation effect in the same identity condition relative to all other conditions ($p < .01$), and in the associated condition relative to the unassociated word and nonword conditions ($p < .01$). In the second experiment, subjects ($n = 28$) were presented with 180 word pairs in one of six conditions: 1) same identity; 2) the prime and target were graphemically similar; 3) the prime and target were graphemically similar and phonemically different; 4), 5), and 6) control conditions for each of the above. Procedures were the same as in the first experiment. Facilitation effects were obtained for all conditions relative to their controls ($p < .01$). The size of facilitation from same identity priming was larger than the effects in the other conditions ($p < .05$). In the third experiment, subjects ($n = 20$) performed the same task as in the other two experiments on 100 word pairs, with the manipulation that the target was primed by a stimulus that 1) had the same identity; 2) was a graphemically similar word; 3) was a graphemically different nonword. Facilitation effects were obtained for the same identity treatment relative to all other treatments ($p < .01$), and for the graphemically similar conditions relative to the graphemically different conditions ($p < .01$). It is concluded that automatic access to the lexicon can operate by the activation of abstract graphemic information.

YELEN, DELPHINE, & FORBACH, GARY B. Lexical decisions and knowledge of orthographic structure in skilled and less skilled college readers. *Perceptual and Motor Skills*, December 1981, *53*, 959-965.

Investigates skilled and less skilled readers' use of orthographic structure in a lexical decision task. Undergraduates ($n = 269$) were administered the Comprehension subtest of the *Diagnostic Reading Test*. Skilled readers (10 male, 12 female) and less skilled readers (7 male, 15 female) were selected on the basis of their scores. Subjects performed a lexical decision task on 144 letter strings which were: 1) high frequency words, 2) low frequency words, 3) nonwords with a terminal bigram not found in English, or 4) nonwords with a terminal bigram that occurs in English. Skilled readers were faster than less skilled for all four types of stimuli ($p < .05$). Skilled readers and less skilled readers both classified high frequency words and illegal nonwords faster than the other two categories ($p < .01$). Less skilled readers also responded faster to high frequency words than illegal nonwords ($p < .01$). It is concluded that less skilled readers do not use orthographic structure as an aid in lexical decisions as well as skilled readers.

UNDERWOOD, GEOFFREY, & BARGH, KATHERINE. Word shape, orthographic regularity, and contextual interactions in a reading task. *Cognition: International Journal of Cognitive Psychology*, September 1982, *12*, 197-209.

Investigates the effects of context, word shape, and orthographic regularity in a naming task. Undergraduates ($n = 20$) were presented with a target word preceded by a congruous sentence, an incongruous sentence, or a fixation dot. Target words were either orthographically regular or irregular, and printed in upper or lower case. Subjects read the word aloud and response latency was measured. Differences between regular and irregular words were observed for upper case presentations only ($p < .01$). Incongruent sentences inhibited word naming ($p < .001$), but this was more apparent for upper case than lower case words ($p < .01$). Results are interpreted as indicating an interaction of information during word recognition, with the removal of word envelope leading to a greater dependence on other intrinsic and extrinsic information.

JUEL, CONNIE L.; & SOLSO, ROBERT L. Effects of orthographic and phonic structures on word identification. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 154-161.

Investigates the differential effects of orthographic and phonic structures, and word frequency, upon the word identification of good and poor readers. Subjects were 48 pupils in second through fifth grades, who scored between 85 and 130 on the *Peabody Picture Vocabulary Test*. Subjects were evenly divided between high and low ability reading groups for the top two and bottom two grades, on the basis of being between six months and two years above or below grade level on both the *Wide Range Achievement Test* and an informal reading inventory. There were two conditions. In one, children chose which of two pictures represented a word meaning, and in the other, performed a lexical decision task. Reaction time was measured. Words varied on three dimensions: frequency, decodability, and orthographic redundancy. In the picture task, there were effects for grade, ability, frequency, decodability, the interaction of frequency and ability, the interaction between grade and orthographic redundancy (all $p < .01$). In the lexical decision task there were effects for grade, frequency, decodability, and the interaction of frequency and decodability (all $p < .01$). It is concluded that phonic structures are a critical factor in word identification for both good and poor elementary age readers, and that older readers find it easier to identify words with distinctive, nonredundant orthographic patterns than orthographically redundant words.

EHRI, LINNEA C., & WILCE, LEE S. Recognition of spellings printed in lower and mixed case: Evidence for orthographic images. *Journal of Reading Behavior,* 1982, *14*(3), 219-230.

Reports three experiments using multiple-choice spelling recognition tests presented in two forms: one with spellings printed in lower-case letters, and one with alternating upper- and lower-case letters. In the first experiment with undergraduates ($n = 83$), the tests were counterbalanced. In the second experiment with undergraduates ($n = 88$), the mixed-case form was presented prior to the lower-case form and subjects completed a spelling production task; some subjects ($n = 52$) took the *Nelson-Denny Reading Test.* In the third experiment, seventh-grade pupils ($n = 98$) were administered the *Gates-MacGinitie Reading Test,* an appropriate spelling recognition test in the two forms, and a spelling production test. In all three experiments more correct spellings were identified in lower-case form ($p < .01$). Spelling recognition scores were highly correlated with spelling production scores ($.77 \leq r \leq .88$). There were significant correlations between lower-case spelling recognition and reading comprehension in Experiment 2 ($p < .05$) and Experiment 3 ($p < .01$).

LASORTE, DIANE M. The differential effects of visual and auditory information in determining meanings of derived words at third and fifth grade levels (abstracted). *Reading World,* October 1981, *21,* 65-69.

Investigates children's ability to determine meanings of derived words that undergo a pronunciation shift from their base word, but still retain close orthographic relation to the base words. Words used in the experimental task were the derivations of 34 base words that were included on a list at or below the third-grade level. The list of words was presented either orally or graphically. A multiple-choice paradigm was used to assess knowledge of word meaning. Subjects were 199 third graders and 223 fifth graders. Reading achievement was determined by the *Metropolitan Achievement Test.* The two groups, auditory presentation and graphic presentation, did not differ significantly in reading. Mean scores for the graphic form of the test were higher than for the auditory form at both grade levels, and there was no significant interaction between grade and form. There was also a significant correlation between the tests and reading achievement except for the auditory test at fifth grade. Concludes that systematic learning of English spelling, because of its morphophonemic nature, may prove a valuable aid in general linguistic competence.

EHRI, LINNEA C. The development of orthographic images. In Uta Frith (Ed.) *Cognitive Processes in Spelling.* New York: Academic Press, 1980, 311-338.

Reviews and discusses several studies, including previously unpublished research by the author, related to the operation of orthographic images in reading and spelling. It is suggested that the ability to form orthographic images as symbols for sounds emerges during the first two years of reading instruction and is one capability distinguishing beginning readers with large repositories of printed words from those without. It is argued that orthographic images contain all the letters of a word, can be scanned like printed words, and that such images aid the production of conventional spellings rather than phonetic variants. It is maintained that orthographic images also facilitate verbal memory and word pronunciation. Findings are taken as evidence for the author's word identity amalgamation theory.

Lima, Susan D., & Pollatsek, Alexander. Lexical access via an orthographic code? The basic orthographic syllabic structure (BOSS) reconsidered. *Journal of Verbal Learning and Verbal Behavior*, June 1983, *22*, 310-332.

Reports three experiments investigating whether lexical access is based on a word's Basic Orthographic Syllabic Structure (BOSS). In the first experiment undergraduates (n = 69) read letter strings in four conditions: 1) divided after their BOSS (BURD EN), 2) divided after their initial Vocalic Centre Group (BUR DEN), 3) divided one letter after their BOSS boundary (BURDE N), and 4) undivided. Words and nonwords were presented in a lexical decision task. Undivided words were recognized faster than divided words ($p < .01$), and BOSS and VCG divisions faster than BOSS + 1. For non-words whole letter strings were identified faster than BOSS ($p < .01$) but not VCG. In the second experiment the same letter strings were presented to subjects (n = 60) in five priming conditions: a) BOSS, where the BOSS of a letter string acted as the prime, b) VCG, where the Vocalic Centre Group acted as the prime, c) MBOSS, where the letter string minus its BOSS acted as the prime, d) MVCG (letter string minus initial VCG), and e) no prime. In a lexical decision task the BOSS and VCG primes were equally effective, but beginning primes were better than end primes ($p < .005$). In the third experiment monomorphemic words such as those used in the first two experiments were compared with inflected words and compound words. There were a variety of priming conditions depending on the type of letter string. Undergraduates (n = 68) performed a lexical decision task on the stimuli. The results suggested that morphemic units are more likely to be access codes to the lexicon than purely orthographic units.

Smith, Marilyn Chapnik, & Kirsner, Kim. Language and orthography as irrelevant features in colour-word and picture-word Streep interference. *Quarterly Journal of Experimental Psychology*, February 1982, *34A*, 153-170.

Conducts three experiments asking if the processes involved in reading Chinese are more similar to those involved in color naming than are the processes involved in reading English. Subjects were: Experiment 1 – 30 paid volunteer undergraduates, 20 Chinese-English bilinguals, and 10 English monolinguals; Experiment 2 – 24 paid volunteers, 12 French-English bilinguals, and 12 Chinese-English bilinguals; Experiment 3 – 30 undergraduates, 20 Chinese-English bilinguals, and 10 English monolinguals. In the first experiment, three stimuli were used: colored squares, English color words printed in colored ink, and Chinese color words printed in colored ink. In the two print conditions, the color word and the ink color did not match. Bilinguals received trials in both languages; monolinguals, all in English. Direction of reading was counterbalanced. In Experiment 2, subjects saw either pictures alone, or a picture with an incongruent word. In Experiment 3, stimuli were pictures alone and pictures with English nouns, English adjectives, Chinese nouns, and Chinese adjectives. Chinese yielded less interference than English and French in between-subjects comparisons. Chinese print did not yield more interference than English print in within-subject comparisons. Both language and orthography were relatively impotent variables in the object naming version of the Stroop task.

Marmurek, Harvey H.C., & Briscoe, Gordon. Orthographic and lexical processing of visual letter strings. *Canadian Journal of Psychology*, September 1982, *36*, 368-387.

Examines orthographic and lexical processing of letter strings in three experiments, employing 45, 12, and 45 undergraduates, respectively. Orthographic redundancy, defined by single letter position-specific frequency, aided the search of targets specified prior to and simultaneous with the letter string. Words were searched faster than nonwords when the target followed the letter string. Neither orthography nor lexicality had significant effects when the position of the target within the string was certain. The authors interpreted the results as consistent with a hierarchical levels mode of word perception in which the activation of detectors at different levels is constrained by task demands.

TAKAHASI, AKIKO, & GREEN, DAVID. Numerical judgments with Kanji and Kana. *Neuropsychologia*, 1983, *21*(3), 259-263.

Asks 17 native Japanese speaking women to judge which of two numbers is larger when written either in Kanji, an ideographic script, or in Kana, a syllabic script. Stimuli were numerals 1-9 written in the two scripts. Subjects were shown two numerals in either script, presented one above the other, and were to judge which was numerically larger. Kanji was reacted to more rapidly than Kana. Reaction times for numerical distance were different for the two scripts. For Kanji, irrelevant variations in the physical size of numerals resulted in faster reaction times in one condition and slower reaction times in another condition; for Kana, such variations slowed processing except when subjects had previously performed with Kanji. It is argued that results indicate an aphasic Japanese who can read Arabic numerals should be able to read Kanji numerals.

SMITH, PHILIP T., & STERLING, CHRISTOPHER M. Factors affecting the perceived morphemic structure of written words. *Journal of Verbal Learning and Verbal Behavior*, December 1982, *21*, 704-721.

Describes four experiments investigating readers' performance with polymorphemic words. British university psychology students were used as subjects in all experiments. In the first two experiments (n = 20, 14), subjects' judgments about the morphemic status of prefixes were examined. Experiment 1 required subjects to rate a series of words on a six-point scale as being definitely not prefixed to definitely prefixed and to underline the prefix where the response was positive. In Experiment 2, subjects were asked to rate nonsense words on a six-point scale in terms of how likely they thought each word was to be prefixed. Results indicated that while subjects could make use of lexical and orthographic information for making morpheme judgments, they were unable to do so on all occasions. In Experiments 3 and 4, fluent reading was examined via a letter cancellation task. The general finding was that there is a pseudoaffix effect. The *e*'s in affixes and in nonaffixes composed of the same syllables were missed more often than the *e*'s in other syllables.

FREYD, PAMELA, & BARON, JONATHAN. Individual differences in acquisition of derivational morphology. *Journal of Verbal Learning and Verbal Behavior*, June 1982, *21*, 282-295.

Utilizes two types of vocabulary tests to assess ability to learn derivational rules. Subjects were 32 high academic ability fifth graders (mean WISC IQ of 139) and 49 average eighth graders. One of the tests was constructed by selecting a series of simple and derived words from a list. The second test was a paired-associate test with one pseudoword and two lists of real-word responses. Half of the pseudowords were related by consistent derivational rules; the other half of the pseudowords differed in root items, so that use of derivational rules would be a hindrance instead of a help. Both groups of subjects were divided into experimental and control groups. All subjects were administered vocabulary test one orally, and they wrote the definition of each word. Experimental subjects were then given five days of instruction, 45 minutes per day, in the use of roots and suffixes. All groups then were posttested on each of the two vocabulary tests. The fifth graders defined significantly more simple and derived words on the pretesting than eighth graders. On the pseudoword posttest, fifth graders performed better than eighth graders on derived words, eighth graders scored higher on the words that were not derivations. Training also significantly improved scores on the posttest of real derived words, but not on simple real words.

KIGER, JOHN I., & GLASS, ARNOLD L. The facilitation of lexical decisions by a prime occurring after the target. *Memory and Cognition*, July 1983, *11*, 356-365.

Investigates priming effects in a lexical decision task when the prime was presented after the target. Three experiments are reported, the first two using 20 and 25 undergraduate introductory psychology students, and the third, 24 adult subjects. In the first experiment, the lexical decision target was shown for 50 msec, followed 80 msec later by the prime. There was no significant facilitation of responses observed in the related prime condition. In Experiments 2 and 3, targets followed by related primes were responded to significantly faster than targets with unrelated primes. The data were interpreted as supporting parallel processing of the prime and target in semantic priming experiments.

SIMPSON, GREG B., & LORSBACH, THOMAS C. The development of automatic and conscious components of contextual facilitation. *Child Development*, June 1983, *54*, 760-772.

Designs two experiments to explore the processes underlying contextual facilitation effects in letter-matching and word-naming tasks in second-, fourth-, and sixth-grade children and adults. In Experiment 1, there were 27 subjects from each of the four age groups. Children were from regular classrooms in one suburban elementary school; adults were undergraduate volunteers. The task was to decide as rapidly as possible whether two simultaneously presented uppercase letters were identical or different. In Experiment 2, there were 24 subjects, all of whom had participated in Experiment 1, in each age group. For this experiment, subjects were to read visually presented words aloud. In both experiments, subjects were provided a context prior to the target stimulus which was related, unrelated, or neutral. Experiment 1 varied the time that the context was available for processing; Experiment 2 varied the proportion of trials in which the context was related to the target stimulus. In both experiments, findings indicated that for youngest children the facilitation for stimuli presented in a related context was attributable to an automatic activation process. Evidence of the conscious allocation of attention to the context showed signs of increasing with age.

TWEEDY, JAMES R., & LAPINSKI, ROBERT H. Facilitating word recognition: Evidence for strategic and automatic factors. *Quarterly Journal of Experiment Psychology*, February 1981, *33A*, 51-59.

Evaluates the effects of semantic context on word recognition using a lexical decision task. Subjects were 48 undergraduates enrolled in introductory psychology courses and tested individually. Letter-strings were presented and response times monitored electronically. Of the 48 letter-strings, 34 were common words and 14 were pronounceable nonwords. Stimuli were manipulated so as to test the effects of expectancy, bias, and sudden changes in stimuli. Analyses of variance of mean response times and error rates were performed. Error rates were quite low in all conditions and resulted in no significant differences. Analysis of response times, however, indicated that semantic contextual facilitation increased with time or exposure and that processing consists of both an automatic and a strategic component.

EISENBERG, PETER, & BECKER, CURTIS A. Semantic context effects in visual word recognition, sentence processing, and reading: Evidence for semantic strategies. *Journal of Experimental Psychology: Human Perception and Performance*, October 1982, *8*, 739-756.

Reports a series of four experiments investigating the effects of semantic context on word recognition. In Experiment 1 undergraduates (n = 57) were assigned to two groups on the basis of the difference in their rates of reading easy and difficult materials, and then made a lexical decision about words preceded by a related word, a neutral row of X's, an unrelated word, or non-words. Cue condition affected reaction time ($p < .001$) and there was an interaction of cue condition and reading group ($p < .005$). In Experiment 2, undergraduates (n =

48) read pairs of sentences which were either related, unrelated, or neutral and their reaction time measured. The critical sentence pairs were presented in lists with either strongly related sentence pairs or a mixture of strongly and weakly related pairs. There were significant effects for cue condition ($p < .05$), but not for list condition. In Experiment 3 the reading task from the first experiment and the sentence task from the second experiment were used with undergraduates ($n = 32$). Differences were found between the reading groups in their sentence processing. In Experiment 4 the sentence processing task from the previous experiments was administered to adults ($n = 15$) with instructions to predict the content of the target sentence. Similar patterns were observed as in the prior experiments. The results are used to support a verification model of word identification.

Forster, K.I. Priming and the effects of sentence and lexical contexts or naming time: Evidence for autonomous lexical processing. *Quarterly Journal of Experimental Psychology*, November 1981, *33A*, 465-495.

Reports a series of five experiments investigating the effect of linguistic context on the recognition of words. Adult subjects ($30 < n < 59$) performed a series of naming and lexical decision tasks in which the linguistic context of words was manipulated. No facilitation effects of context were observed in naming tasks for either highly predictable or semantically appropriate (but predictable) completions, but strong inhibitory effects were found for inappropriate conpletions. In lexical decision tasks the inhibition effects of context for inappropriate targets were maintained, but predictable completions produced strong facilitation effects. Results were interpreted in terms of a two-factor theory, which attributes the facilitation observed in lexical decision tasks to postlexical access decision processes not involved in the naming task.

Stanovich, Keith E., & West, Richard F. The generalizability of context effects on word recognition: A reconsideration of the roles of parafoveal priming and sentence context. *Memory & Cognition*, January 1983, *11*, 49-58.

Reports three experiments in which undergraduates ($n = 24, 32, 16$) completed a naming task when the target word was preceded by congruous, incongruous, or neutral sentence contexts. Strength of context was varied between Experiments 1 and 2, and procedures for determining reaction time, between Experiments 2 and 3. In Experiment 1, the subsequent word to the target word was either a noun or a non-word using the same letters. The nature of the preceding context made a significant difference to naming time in all three experiments ($p < .05$), but there was no evidence that the naming of the target word was affected by the subsequent word.

Schwartz, Robert M., & Stanovich, Keith E. Flexibility in the use of graphic and contextual information by good and poor readers. *Journal of Reading Behavior*, Fall 1981, *13*, 269.

Reports two studies that investigate the use of graphic and contextual information in word recognition. Subjects in the first study were 21 good and 21 poor readers in the final weeks of third grade. Subjects in the second study were 20 good and 20 poor readers in the beginning of fourth grade. For both studies, good and poor reader designations were made on the basis of teacher ratings. Materials consisted of two 200-word stories, each containing 10 altered words in which a single letter was substituted so that an anomalous word was formed within the sentence. Subjects read the passages in Study I in one of three instructional sets: 1) neutral; 2) meaning orientation in which they were told the purpose for reading was to decide how the story might be extended; and 3) word recognition orientation which stressed accurate reading. After reading the stories, questions were asked to probe subjects' awareness of the substitutions. The same materials were used in Study II, except that one story was presented in its normal format. Subjects read that story. They were then told that the second story had been changed and the grapheme alteration procedure was explained and demonstrated. Subjects were then told to read the story, either as printed or so that it made sense. In Study I, there were no significant main effects or interactions in the analysis of contextual substitutions. The orienting instructions did not significantly affect performance. There were no significant differences or interactions in reading time in Study II between good and poor readers or orientation. Orientation did significantly affect the mean number of exact responses, with more exact responses in the accurate reading orientation. Good readers also performed this task more accurately than poor readers. Both groups conformed to task demands for contextually appropriate responses equally well, but poor readers did not suppress contextual information as well as good readers when accurate reading was called for.

Stanovich, Keith E., & West, Richard F. On priming by a sentence context. *Journal of Experimental Psychology: General*, March 1983, *112*, 1-36.

Reports 11 experiments which were designed to address differences and conflicts between models of context effects in word recognition, particularly the authors' own spreading activation model and Becker's verification model. Results demonstrate that the manipulation of readers' strategies is more difficult when continuous comprehension demands are being made using a sentence prime than in single-word priming tasks, and that sentence context produces more inhibition in a lexical decision task than a naming task. It is concluded that lexical access during fluent reading can be facilitated by context through an unconscious process of spreading activation in semantic memory.

Cohen Gillian, & Faulkner, Dorothy. Word recognition: Age differences in contextual facilitation effects. *British Journal of Psychology*, May 1983, *74*, 239-251.

Reports the results of three studies on the effects of aging on contextual facilitation in word recognition. The first study employed a sentence completion task. A factorial design included two levels of sentence type (complete versus incomplete), two levels of contextual predictability (higher versus low), and old (ages 63-80) versus young (ages 19-34) readers. The dependent variable was the response latencies to read the sentence sets and, if necessary, supply the missing words. Significant main effects were found for sentence type (complete sentences were read faster) and level of context (highly predictable sentences were read faster than low predictable). No significant main effect was found for age. The second study used a lexical decision procedure. A six-way ANOVA tested the effects of type of ending (high, low, and non-word), presence of context, stimulus set of materials, sex, and age. Main effects of age, context, and type of ending were all significant. Follow-up t-tests also showed that in some conditions the context effect was significantly larger for the old subjects. The third study compared old and young subjects' ability to identify words spoken in isolation, or preceded by sentence context. Stimulus degradation was manipulated by presenting different levels of white noise background. Main effects of age, noise, and context were obtained. Secondary analysis revealed that the context effect for old subjects is greater as noise levels increase.

Duffelmeyer, Frederick A. The effect of context clues on the vocabulary test performance of word dominant and paragraph dominant readers. *Journal of Reading*, March 1984, *27*, 508-513.

Examines the ability of word dominant and paragraph dominant readers, at three different grade levels, to use context clues. Subjects were classified as word dominant or paragraph dominant readers on the basis of the difference between vocabulary and comprehension subtest scores on a standardized test. A word dominant reader scored significantly higher on vocabulary than comprehension while a paragraph dominant reader showed a reverse pattern. The sample was comprised of 113 fifth graders, 87 eighth graders, and 62 eleventh graders. Two weeks after taking the *Gates-MacGinitie Reading Test*, each student was given a modified version of the vocabulary subtest. The modified version contained the target words in context-rich sentences rather than in isolation as on the original. Paragraph dominant readers at the fifth-grade level scored significantly higher on the modified subtest than their word dominant counterparts; however, no significant differences were found between the two types of readers at the other two grade levels. Developmental differences in reasoning ability and readability factors are offered as possible explanations for the findings.

Perkins, Kyle, & Brutten, Sheila R. The effects of word frequency and contextual richness on ESL students' word identification abilities. *Journal of Research in Reading*, September 1983, *6*, 119-128.

Researches the effects of word frequency and contextual richness on word identification by adult second language (L2) readers. Two groups of subjects, matched for sex and nationality, were included: 36 Course 2 and 36 Course 4. Course 2 readers were described as those who read best when the subject matter is familiar; Course 4 readers, as being able to read the same general, nontechnical materials as a native-speaking college freshman. Target word pairs were used and placed within three levels of sentence context: rich context, moderate context, and poor context. Sentences were read to subjects who were asked to supply the target word. If the subject was wrong, the first letter and then subsequent letters of the target word were supplied until the word was correctly identified. Course 2 subjects needed a significantly higher proportion of a word supplied to them for identification than did Course 4 subjects. For all subjects, a significantly higher proportion of a word was needed to identify low-frequency as opposed to high-frequency words. There were significant differences in the proportion of a word needed for identification in poor, moderate, and rich contexts.

Hudson, Jean, & Haworth, John. Dimensions of word recognition. *Reading*, July 1983, *17*, 87-94.

Tests 87 British eight-year-olds on their ability to recognize selected words from the *Schonell Graded Word Reading Test* in context and isolation. Significant differences were found favoring the context condition.

Seidenberg, Mark S.; Tanenhaus, Michael K.; Leiman, James M.; & Bienkowski, Marie. Automatic access of the meaning of ambiguous words in context: Some limitations of knowledge-based processing. *Cognitive Psychology*, October 1982, *14*, 489-537.

Reports five experiments investigating the processing of ambiguous words in sentences. University students served as subjects and numbered 48, 48, 32, 40, and 20, respectively, in the five experiments. Three general factors were investigated: lexical structure, contextual information, and time course of processing. Two classes of ambiguous words, noun-noun and noun-verb, and two types of context, priming and nonpriming, were researched using a variable stimulus onset asynchrony (SOA) priming paradigm. The results suggested that meaning access is an automatic process which is unaffected by knowledge-based or top-down processing. Whether selective or multiple access of meaning is observed depends to a large extent on the structure of the ambiguous word, not the nature of the context.

Barsalou, Lawrence W. Context-independent and context-dependent information in concepts. *Memory & Cognition*, January 1982, *10*, 82-93.

Proposes that there are two types of properties associated with concepts: context independent and context dependent. Context-independent (CI) concepts are activated by the word for the concept, whereas context-dependent (CD) concepts are rarely activated by the word for the concept and are only activated by relevant contexts in which the word appears. Conducts two studies, with 19 and 28 college student subjects, respectively, to test this proposal. The first experiment was a property verification task. On each trial, subjects read a sentence containing an underlined subject noun. Seconds later, the label for a property was presented, and subjects indicated whether or not the subject noun possessed the property. Nouns were either CI or CD; sentences were either related (i.e., context accentuated the property), unrelated (i.e., context did not relate to the property) or control. The dependent variable was the reaction time for correct responses and number of errors. In Experiment 2, subjects judged the similarity of instance pairs of certain categories. Two types of categories were used: highly conventional (e.g., birds) and unusual (e.g., plunder taken by conquerors). Subjects were either told or not told the name of the category before judging the similarity of pairs. The findings of both studies support the authors proposal of CI and CD properties.

REITSMA, PIETER. Printed word learning in beginning readers. *Journal of Experimental Child Psychology*, October 1983, *36*, 321-339.

Reports a series of three experiments conducted with young Dutch children to examine the acquisition of word-specific knowledge in beginning readers. In the first experiment, 16 children were taught a series of isolated words. One-half were nonsense words; the other half were real words. Some words were presented auditorily while others were presented both visually and auditorily. Learning was assessed by response latencies and error rates in a classification task. Findings suggested that young readers learn the visual patterns of new words rapidly. The second experiment studied how quickly children learn to recognize the word-specific pattern of letters. Again, young pupils were first taught nonsense words. A delayed posttest assessed the response latencies for the originally taught words and homophonic alternatives. The results suggest that young readers quickly learn to recognize the specific patterns of letters constituting the words they read. The third experiment attempted to replicate findings of the second experiment by using real words which are familiar in spoken but not written form. More refined efforts were also made to monitor the accumulating effect of exposure or teaching and to look at the differences between skilled and unskilled readers. It was found that error rates decreased with practice, that errors occurred more frequently on homophonic spellings than standard spellings, and that skilled readers outperformed unskilled readers, but the effects of training conditions and spelling were similar for both groups.

EHRI, LINNEA C., & WILCE, LEE S. Development of word identification speed in skilled and less skilled beginning readers. *Journal of Educational Psychology*, February 1983, *75*, 3-18.

Investigates the speed of word identification by skilled and less skilled beginning readers in two experiments. In the first, pupils (n = 48) were drawn equally from first, second, and fourth grade classrooms. The *Comprehensive Test of Basic Skills* and teacher recommendations were used to differentiate between skilled and less skilled readers. Reaction times were measured in a naming task for object words, non-object words, color-words, number-words, digits, nonsense words, and pictures. If subjects identified words as rapidly as digits, it was inferred that components of the identification process (graphic, phonological, and semantic) were utilized in memory. Skilled readers in all grades and fourth grade less skilled readers exhibited unitized speeds for words, and skilled readers in fourth and second grade exhibited unitized speed for nonsense words. In the second experiment first and second grade pupils (n = 37) practiced reading words and nonsense words. Unitization speeds were not achieved by less skilled readers in either case, although reaction times fell between pre- and posttest.

BOLES, DAVID B.; ROGERS, STEVEN; & WYMER, WILLIAM. Age of acquisition and visual field asymmetry in word recognition. *Perception and Psychophysics*, November 1982, *32*, 486-490.

Investigates the relation between visual field asymmetry in word recognition and the age at which the words were acquired. Words were selected from words children used orally in their first two years. Early-acquisition words were those used by at least 10 of the 18 children; middle-acquisition words were those used by 2 to 8 of the children; and late-acquisition words were not used by any of the children. Word sets were equated for length in letters and syllables, and for concreteness. Subjects, who were adult students (11 female, 11 male), were presented the words once in each visual field in a naming task. The task was then repeated with a different random ordering of the words, producing two block trials. Main effects were obtained for age of acquisition, visual field and block. Right visual field produced better performance than left visual field ($p < .001$) and there was a practice effect for the second block ($p < .001$). Differences between the age of acquisition of the words were found to be artifacts of word frequency. There was no interaction of age with visual field.

KLOSE, ANNE E.; SCHWARTZ, STEVEN; & BROWN, JUDITH W.M. The imageability effect in good and poor readers. *Bulletin of the Psychonomic Society*, November 1983, *21*, 446-448.

Hypothesizes that the imageability effect (highly imageable words are easier to read than abstract words) is a function of the differing ages at which imageable and abstract words are acquired. Subjects were 43 teen-age males who volunteered to participate. The 11 highest and 11 lowest scoring subjects on the *GAPADOL Reading Comprehension Test* were classified as good and poor readers. Groups did not differ on nonverbal IQ as determined by the *Lorge-Thorndike Intelligence Test*. Subjects were presented via video display terminal with 40 high- and 40 low-imageability stimulus words, equated for age of acquisition, and were asked to identify whether a word was identical to a previously presented word and to indicate the level of confidence in their judgment. Additionally, they were asked to read each word and reading latency was recorded. The two groups did not differ in their ability to recognize formerly presented high- or low-imagery words. Reading latency was not affected by word imagery.

HERMELIN, B.; & O'CONNOR, N. Naming and classifying: Intelligence and frequency effects. *British Journal of Psychology*, August 1982, *73*, 361-370.

Relates two experiments comparing intellectually gifted children and controls on their ability to name and classify words and pictures of high frequency. In Experiment 1, subjects were 14 intellectually gifted children, 14 children selected by teachers as having outstanding ability in the visual arts, and 14 controls. All children were given the *Peabody Picture Vocabulary Test* and the *Ravens Progressive Matrices*. Materials consisted of 40 high frequency and 40 low frequency words on the Thorndike-Lorge word list, each presented as a word and in pictorial form. Each child did four tasks: picture naming, word naming, picture classifying, and word classifying. Intellectually gifted children obtained the fastest and controls the slowest reaction times. Word naming was faster than picture naming, picture classification was faster than word classification. In Experiment 2, two sets of 20 words were presented for recognition and one set of 20 words for recall. Control group subjects recalled more frequent than infrequent words, but frequency effects were not significant for gifted children. Results are discussed in terms of "relative" and "absolute" frequencies of words and pictures, and in relation to similar lexical search and comparison processes involved in the naming and recall of words.

DURSO, FRANCIS T., & O'SULLIVAN, CHRIS S. Naming and remembering proper and common nouns and pictures. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, July 1983, *9*, 497-510.

Studies the effects of representations of common nouns, proper nouns, and their pictorial counterparts. In the three experiments ($n = 36$, 36, and 68), college students were initially required to name pictures and to read words. Experiment 1 explored whether the prior naming of a picture facilitated reading the verbal label differentially depending upon the semantic attributes of the word. Common and proper nouns were read, some of which were presented as pictures, some as words, and some of which had not been presented earlier.

Reading latencies for proper nouns were reduced by having seen either the word or the picture, but latencies for common nouns were reduced only when the word had been seen. In Experiments 2 and 3, recognition and recall were superior for pictures compared with words and for proper nouns compared with common nouns.

BARBER, PAUL, & DE LA MAHOTIERE, CHRISTINE. Ease of identifying words degraded by visual noise. *British Journal of Psychology*, August 1982, *73*, 371-381.

Describes and assesses, in three experiments, a technique for investigating word recognition, the visual noise technique. In this task, a word is printed in the form of letters made up of separate elements such as patterns of asterisks. Noise consists of additional elements superimposed on the target word which reduce the ease whereby the words can be recognized. Subjects in Experiments 1-3 numbered 16, 40, and 12, respectively, all undergraduate and graduate students. Experiment 1 compared the tachistoscopic and noise methods using word frequency, word length, and presentation method as independent variables. A word frequency effect was obtained for the noise task and for tachistoscopically presented words in conventional typography. For the tachistoscopic task, the frequency effect depended on the method of presentation. Experiment 2 showed no effect of inspection interval on performance on the noise task. In Experiment 3, a word-frequency effect was found with tachistoscopic exposure of the noise task stimuli in undegraded form.

GRAF, PETER. The memorial consequences of generation and transformation. *Journal of Verbal Learning and Verbal Behavior*, October 1982, *21*, 539-548.

Reports two experiments which investigated the effects of self-generation and rotated display of sentences on word recognition. In the first study, college students were presented with meaningful and anomalous sentences in one of two conditions, reading the sentences or composing the sentences from word lists that were provided. The dependent variable, a word recognition task, involved identifying from a word pair which word had been included in the sentences. Performance was significantly better for meaningful, rather than anomalous sentences, and for self-generated, rather than read sentences. In the second study, the same sentences were used and presented in two conditions: typed normally on index cards or typed rotated 180 degrees (upside down). Significant differences were found favoring meaningful sentences and the upside down orientation. The results of the two studies are compared and their meaning on cognitive elaboration and integration are discussed.

DEN HEYER, KEN; BRIAND, Kevin; & DANNENBRING, GARY L. Strategic factors in a lexical-decision task: Evidence for automatic and attention-driven processes. *Memory and Cognition*, July 1983, *11*, 374-381.

Cites three experiments examining strategic factors in a semantic-priming, lexical-decision task. The first two experiments utilized 48 undergraduates each; the third, 102 college students. Stimulus sets for Experiment 1 were 64 word-pairs, 32 nonword-word pairs, 32 word-nonword pairs, and 16 nonword-nonword pairs. Stimuli and procedures were identical in Experiments 2 and 3 with minor exceptions. Experiment 1 indicated that the greater the proportion of word-word pairs to unrelated word-word pairs, the greater the amount of facilitation. Experiment 2 corroborated this finding as did Experiment 3.

DOSHER, BARBARA ANNE, & CORBETT, ALBERT T. Instrument inferences and verb schemata. *Memory and Cognition*, November 1982, *10*, 531-539.

Employs a Stroop paradigm in examining the activation of instruments in sentence comprehension. Five experiments are reported, all employing undergraduates as subjects. Numbers of subjects involved were 8, 7, 24, 14, and 6, respectively. Subjects were presented with a sentence prime followed by an instrument name in colored ink. Two types of instruments were studied, tools and body parts. The first four experiments showed no evidence that abstract knowledge of the instrument is activated. In Experiment 5, results revealed evidence of instrument activation when subjects were instructed to generate implicit instruments.

Lambert, A.J., & Beaumont, J.G. Imageability does not interact with visual field in lateral word recognition with oral report. *Brain and Language*, September 1983, *20*, 115-142.

Investigates the hypothesis, in a series of four experiments, that the right hemisphere has a selective ability to process highly imageable words. Subjects were all adults and numbered 24, 32, 24, and 32, respectively, in the four experiments. Sex distribution was equal throughout. In Experiment 1, stimuli were six sets of 10 nouns, equated for length and frequency of occurrence but manipulated for imageabilty and concreteness. Stimulus presentation was via computer controlled screen and subjects were to report the stimulus word. Experiment 2 was similar in nature but used only words that were four letters long and from a different list. Both Experiments 1 and 2 used a unilateral word recognition task. In Experiment 3, words were presented bilaterally and consisted of 30 highly and 20 poorly imageable nouns, equated for frequency. In Experiment 4, a low imageability word was presented centrally concurrently with a word of low or high imageability presented in the left or right visual field. Results did not support the right hemisphere (RH) imageability hypothesis. Previously reported research supporting the RH imageability hypothesis is reviewed and discounted on artifactual grounds.

IV-10 Factors in interpretation

Verdaasdonk, H. On the possible roles of institutionalized beliefs in the theory of literature: Interpretation as the context-dependent grouping of word material. *Poetics*, October 1981, *10*, 457-482.

Examines the question do conceptions of literature influence the perception of literary texts? Uses a conception of the isotopic nature of textual meaning, a semantic theory, in an experiment to test the hypothesis that isotopy might be interpreted as a reading program, the rules readers follow in perceiving literary texts. Isotopies are formed out of textual segments of different sizes grouped together on the basis of perceived meaning similarities. Subjects, 21 graduate students in the French Department of the Free University of Amsterdam, participated in four sessions. For Session 1 they grouped a list of 47 words taken from a Victor Hugo poem on the basis of meaning similarities they perceived. Subjects were not informed as to the source of the words. At Session 2 they performed the same task with 59 words taken from a poem by Denis Roche. Subjects then read the Hugo poem and in Session 3 were asked to group a new list of 47 words. They were asked to rate the difficulty level of the poem before performing the grouping task. At Session 4, the subjects performed the same tasks with the Roche poem. There was no difference, for either poem, in the number of groups, size of group, or number of words used in forming groups when subjects grouped words without reading the poem and after reading the poem. Author concludes that his hypothesis should be rejected and that the conception of isotopy reflects a number of institutionalized ideological beliefs about the nature of literary texts and the way readers process texts.

Bruce, Bertram. A social interaction model of reading. *Discourse Processes*, October-December 1981, *4*, 273-311.

Proposes that the interaction between an author and a reader is a social interaction dependent on their goals and their beliefs about the world and each other. Hypothesizes that one aspect of this interaction is the creation of another level of social interaction involving an implied author and an implied reader. These characters, is is thought, may create yet another level of social interaction involving a narrator and a narratee. Each level so created permits the creation of an additional level. The paper presents and discusses a model for the levels of social interaction in writing/reading. This model provides a framework for analyzing numerous aspects of prose, such as author commentary, irony, stories within stories, first person narrative, and point of view. Concrete examples are employed to demonstrate the application of this model.

Zaharias, Jane Ann, & Mertz, Maia Pank. Identifying and validating the constituents of literary response through a modification of the response preference measure. *Research in the Teaching of English*, October 1983, *17*, 231-241.

Reports an exploratory investigation designed to verify or identify a valid operational definition of literary response by determining its constituents. Data were obtained from 166 college undergraduates enrolled in nine introductory literature courses (8% in poetry, 52% in fiction, 31% in science fiction, 8% in American literature). A stimulus condition consisting of six dissimilar short stories and poems was devised. After reading each work, subjects were asked to complete a modified version of the International Association for the Evaluation of Educational Achievement's *Response Preference Measure* (RPM). To determine empirically the constituents of literary response, subjects' ratings of each item for all six forms of the RPM were jointly subjected to the principal-axis method of common factor analysis. Subject to varimax rotation, the following four factors were interpreted and labelled: personal statement, descriptive response, interpretative response, and evaluative response. Seven of the 20 items on the RPM did not factor out into the four categories of response.

Gerrig, Richard J., & Healy, Alice F. Dual processes in metaphor understanding: Comprehension and appreciation. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, October 1983, *9*, 667-675.

Reports two experiments which examined both the comprehension of metaphors and an appreciation of their literary quality. In the first study, college students were asked to read a series of sentences containing metaphors. Position of the metaphor (metaphor first versus context first) and quality of the metaphor (good versus bad) were manipulated while holding other sentence factors constant. Reading-reaction times served as the dependent variable. Significantly shorter reading times were found when context preceded the metaphor but the quality of the metaphor had no effect on reading time. The second study attempted to verify that the results of the first study were not due to an artifact of sentence construction. Literal interpretations for the good metaphor sentences were created thus yielding four forms: context-first-metaphor, context-first-literal, context-second-metaphor, and context-second-literal. The metaphor-context-ordering effect from the first experiment was replicated. However, the ordering manipulation had no effect on the reading times of literal sentences.

Pearson, P. David; Raphael, Taffy E.; TePaske, Norma; & Hyser, Charles. The function of metaphor in children's recall of expository passages. *Journal of Reading Behavior*, Fall 1981, *13*, 249-261.

Conducts three experiments to evaluate the effects of metaphor on children's reading of expository passages. In Experiment 1, 20 sixth graders (average readers) and 20 college students read one of two equated passages: one with metaphors and one without. The topic of the passage was thought to be unfamiliar to sixth graders. For both groups, metaphor structures were recalled significantly better than their literal paraphrases. The subjects of Experiment 2 were 20 third graders, 10 good readers and 10 poor readers. The content of this passage was considered to be familiar to pupils. There was no significant difference in the recall of metaphor or literal paraphrase structures. Experiment 3 was designed to eliminate the passage familiarity × grade level × experimental confounding. Subjects were 20 third and 20 sixth graders; half of each group were good readers and half were poor readers. There was no significant main effect, but there was a passage familiarity by version (metaphor or literal) interaction; metaphor structures were better recalled than their literal paraphrase only for unfamiliar content. Concludes that metaphors can serve the function of bridging new and old information in unfamiliar textual settings.

LEHNERT, WENDY G. Plot units and narrative summarization. *Cognitive Science*, October-December 1981, *5*, 292-331.

Proposes a method for the analysis of the structure of narrative memory representation. The method is based on plot units, which are conceptual structures that overlap with each other when a narrative is cohesive. The paper develops a representational system of plot units for high level structural analysis, examines the conceptual content of narrative summaries in terms of plot units and provides a framework for describing narrative cohesion. Concludes with a process-oriented description of summary generation, a comparison of plot unit analysis and story grammars.

SIMS, RUDINE. Strong black girls: A ten year old responds to fiction about Afro-Americans. *Journal of Research and Development in Education*, Spring 1983, *16*(3), 21-28.

Reports the responses of one 10-year-old black girl to fiction about Afro-Americans. The interview is placed in the context of research on responses as these relate to such books, and an analysis of the content of 150 books of contemporary realistic fiction about Afro-Americans. The books fell into three categories: social conscience books, in which the primary audience would appear to be white children; melting pot books, which were written for an integrated audience; and culturally conscious books, which deliberately set about to create a uniquely Afro-American experience and were primarily for a black audience. In her reading of literature about Afro-Americans, the 10-year-old girl responded positively to: a) experiences which related to her own, b) distinctly Afro-American cultural experiences, c) black female characters with whom she could identify, d) characters who were strong, active, clever, e) humorous situations, f) lyrical language, g) aesthetically pleasing illustrations. She responded unfavorably to books she considered boring, with easily predictable plots or unrealistic characters; and to events in which black characters are denied human dignity or treated unjustly. An issue raised is the limited quantity and applicability of available research on response of elementary school children.

BEACH, RICHARD. Attitudes, social conventions and response to literature. *Journal of Research and Development in Education*, Spring 1983, *16*(3), 47-64.

Conducts an exploratory investigation to determine the influences of differences in prior knowledge of conventions and attitudes on readers' responses to a short story. Subjects were 45 11th grade students in two average track English classes and 45 juniors and seniors in an undergraduate English education program. First subjects read three short vignettes portraying a teacher lecturing about a Shakespearean play and then were asked to rate the teacher's behavior as appropriate or inappropriate on a 5-point scale. They were then asked to read a short story and to rate and describe the behavior of an English teacher at three specific points. The *Attitude Towards Poetry Teaching Scale* and the *Literary Transfer Scale* were administered. College students' mean scores on both scales were higher than those of high school students. The two groups differed in the same attitudinal direction in the degree-of-appropriateness ratings of the teaching vignettes and the teacher's behavior in the short story. College students made more inferences about characters' motives and goals than did the high school students.

HICKMAN, JANET. Everything considered: Response to literature in an elementary school setting. *Journal of Research and Development in Education*, Spring 1983, *16*(3), 8-13.

Focuses on reactions of elementary children to two books. Children came from grades K-5 and numbered 90. Three aspects of the evidence collected are dealt with: the occurrence of spontaneous response, variation in solicited verbal responses, and the implications of nonresponse. Examples of response patterns are given for various grade levels and in general. Indications of age-related patterns which increased with age were: 1) reliance on verbal modes of response; 2) confidence in verbal expression; 3) repertoire of response strategies and terminology; 4) appearance of abstracted or generalized language in summaries, classifications, and theme statements; 5) evidence of distancing self from the story in expressing the distinction between real and make-believe and in projecting their own behavior as a character. The influence of the teacher in children's response patterns was noted.

IV-11 Oral reading

Tovey, Duane R. Children's perceptions of oral and silent reading. *Reading Horizons*, Fall 1981, 22, 72-80.

Interviews first and third grades about their preference for oral or silent reading before and after an 8-week language arts and reading program with preservice teachers. Subjects were 18 first graders and 12 third graders. Preservice teachers worked with the children, in groups of three, using activities that emphasized meaning. When asked would you rather read "out loud" or "to yourself" before the program, 83% of the first graders and 58% of the third graders preferred silent reading. After the program 100% of the first graders and 42% of the third graders preferred silent reading. The major reason given by first graders for preferring silent reading was the level of noise in the room; for third graders, it was for social concerns such as embarrassment. Before the program 72% of the first graders and 75% of the third graders thought silent reading was easier; after the program the percentages were 94 and 67, respectively. The major reasons offered by both groups before and after the program were that silent reading is faster and that it is easier to correct mistakes.

Niles, Jerome A. The effects of selected teacher prompting strategies on oral reading performance. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 166-171.

Investigates the effects of different teacher prompts on the oral reading of third grade children. Subjects ($n = 34$) were average readers who scored between the 38th and 81st percentiles of the *SRA Achievement Tests.* Pupils orally read a passage each day for five days. Data were collected only for the fifth day. Passages were from a third grade basal and of equal difficulty. During reading, children were either prompted by drawing attention to orthographic information in the word, or asked "Does that make sense?," or asked to repeat the sentence, or given the correct word. Oral recall-protocols were collected, and a series of questions asked after each passage. The children's oral reading miscues were examined for graphic similarity, semantic acceptability, and meaning change. The graphophonic condition rendered fewer responses that were semantically acceptable than the semantic condition ($p < .01$) and generated more semantically acceptable dissimilar responses than all other conditions ($p < .01$). The semantic condition responses changed the meaning less than the graphophonic condition responses ($p < .01$), and the graphophonic condition responses changed the meaning more than the semantic condition and the repeat condition ($p < .01$). No significant differences were found between groups on recall and question measures.

Horii, Yoshiyuki. Some acoustic characteristics of oral reading by ten- to twelve-year-old children. *Journal of Communication Disorders*, July 1983, *16*, 257-267.

Reports on the acoustical analysis of the oral reading of 36 grade five and six children, ages 10 to 12. Investigated were: 1) total speaking time, 2) total pause time, 3) phonation-time ratio, and 4) voice fundamental frequency characteristics. Sex differences, differences between two passages, and differences between two repeated readings of each passage were analyzed. The 18 boys and 18 girls first familiarized themselves with the two passages through practice readings and then were recorded. There were significant differences in speaking time and phonation-time ratio between the two passages for both sexes, but pause time did not reach statistical significance. Both speaking time and pause time varied markedly among individuals. Girls showed less pause time and phonation-time ratio than did boys. Central tendency and dispersion measures of the voice fundamental frequencies were relatively unchanged between passages or from the first to the second reading of the same passage.

RABAN, BRIDIE. Text display effects on the fluency of young readers. *Journal of Research in Reading*, February 1982, *5*, 7-29.

Explores the effects of position of line-breaks in text with respect to the phrase structures of sentences for 254 five- to eight-year-old children. Children read aloud, were taped and timed as they read, and retold the story and answered question probes. Tapes were analyzed for disruptions of fluency and comprehension. Line breaks were embedded after each word in the subject-verb-object-adverbial pattern, and were constructed so that line breaks occurred in every possible position as frequently as possible. A control text was prepared that was identical except for the line breaks. In phase one, 137 children were subjects. Statistically significant differences were found between texts on tone unit boundaries, on falling tone at the end of line, and on repetitions, pauses, and hesitations. The experiment text produced more disruptions of fluency. Line violations of syntactic and semantic units did not appear to affect overall comprehension of the story. Omissions, substitutions, insertions, and refusals did have a statistically significant negative effect on reducing comprehension of text. In phase two, focus was on individual sentences, rather than the text as a whole. One-hundred seventeen children were subjects. Each sentence under investigation was compared for two different readings. Each sentence reading was studied for time, tone unit boundaries, and falling tone, and ranked. Line breaks within phrases caused fewer disruptions of fluency. Line breaks after *and* produced less disruption of fluency than when *and* began a new line.

WILKINSON, IAN A.G., & BROWN, CATHY A. Oral reading strategies of Year One children as a function of level of ability and method of instruction. *Reading Psychology*, January-March 1983, *4*, 1-9.

Reports the results of two studies which examined the processing strategies used by beginning readers. In study 1, 44 first year pupils in Australia were assessed via oral reading protocols. One-half of the pupils were classified as good readers, the other half as poor readers. The good readers showed significantly better performance on semantically acceptable substitutions, successful corrections of contextually unacceptable errors, and syntactically acceptable substitutions. In study 2, oral reading protocols were again collected on beginning readers instructed in two types of language-experience programs. Results were mixed but did show some significant differences between the programs, with one group showing better control over the semantic cueing system.

BOWEY, JUDITH A. Intrasentence contextual facilitation in children's oral reading. *Reading Psychology*, April-June 1983, *3*, 91-103.

Examines quantitative and qualitative aspects of 60 third-, fourth- and fifth-grade Australian children's oral reading of words in isolation and in sentence-length contexts. Two sets of 32 sentences differed in content word difficulty, but kept the same variety of syntactic structures. Children were tested in three sessions for the *Schonell Graded Word Reading Test*, the materials for the easier content word difficulty, and the isolated word list, and the harder content word difficulty and the isolated word list. After the second and third sessions, subjects were asked if the word list or the sentences were easier to read. Twenty words were selected from each sentence task. The percentage of oral reading errors on these target words was computed for both conditions. A five-way analysis of variance showed grade and difficulty were highly significant, as was the grade by difficulty interaction. Sentence position was also significant. The main effect of context was not significant. Context did not interact significantly with any of the grade, contest word difficulty, or sentence position factors. Neither could nonsignificant context effects be attributed to target word sampling errors. In a three-way analysis of variance (grade x content word difficulty x context) all main effects were significant. Word read in sentence-length context were read less accurately than words in isolation. There was no difference in children's perception of ease for the easier level of materials. Children rated the no context condition as easier for the harder material. Analyses of children's explanations of their responses and observations during testing suggested that children adopted different reading strategies in the context and no context conditions. When looking at all reading errors, main effects for grade and content word difficulty indicated that the proportion of contextually acceptable reading errors increased with grade level and decreased with content word difficulty.

GOTTLIEB, BARBARA W. Effects of relative competence on learning disabled children's oral reading performance. *Learning Disability Quarterly*, Winter 1984, *7*, 108-112.

Examines social facilitation theory which predicts the circumstances under which academically handicapped learners decrease the number of errors made during oral reading. Twenty-six learning disabled children, 5 third graders, 7 fourth graders, 6 fifth graders, and 8 sixth graders, whose primary placement was regular classrooms, and 156 nonhandicapped children in grades three through six served as subjects. Two experiment conditions were established: 1) similar relative competence, where learning disabled subjects read round-robin with regular education peers who had similar reading levels, and 2) low relative competence, where learning disabled subjects read round-robin with regular education peers who had reading levels 2.5 to 3.0 grade levels higher. Performance was evaluated on the oral reading of the first 50 words of each trial. The only significant effect was a main effect for treatment ($p < .001$); low relative competence subjects made significantly more reading errors.

DENO, STANLEY L.; MARSTON, DOUGLAS; SHINN, MARK; & TINDAL, GERALD. Oral reading fluency: A simple datum for scaling reading disability. *Topics in Learning & Learning Disabilities*, January 1983, *2*(4), 53-59.

Describes two studies carried out to determine whether repeated measurement of reading aloud from basal word lists or test passages is an appropriate technique in discriminating learning disabled (LD) children from low-achieving children. In the first study, 71 of the fifth-graders from an original cohort of 99 children were followed. LD pupils ($n = 34$) were identified in accordance with Public Law 94-142, and low achievers were those who scored at or below the 25th percentile on the *Iowa Tests of Basic Skills* in math, reading, or composite total. Children were asked to read five lists of 60 words each, to spell dictated words, and to write a story. One list of words was given each week. Low achievers correctly read more words than did LD children. LD pupils also read more slowly than low achievers. For Study 2, 24 LD pupils and 115 low achievers in grades 1-3 served as subjects. Each pupil read orally one passage once a week for four months. In grades two and three LD pupils read significantly fewer words correctly than did low achievers. There was no significant difference between the two groups at first grade level.

MALICKY, GRACE V., & BRAKE, M. DELPHINE. Oral versus silent reading in programs for problem readers. *Reading–Canada–Lecture*, April 1983, *2*(2), 55-61.

Explores the nature of reading comprehension for 40 second-grade high and low achieving Newfoundland pupils when they read orally and silently on instructional level passages from the *Standard Reading Inventory*. Form A oral reading passages were used to assess oral reading and Form B oral reading passages were used to assess silent reading. Recalls followed each story and question probes assessed ideas not included in the retelling. Recalls were transcribed, divided into units, and placed into five categories, using Fagan's adaptation of Drum and Lantoff's system of analysis. Two-way analysis of variance tested the effects of reading proficiency and mode of reading on comprehension. All readers were able to comprehend more difficult material when reading silently than orally, but the superiority of silent over oral reading comprehension was greater for the higher than the low group. When confronted with material at instructional reading level, there were no significant differences between achievement groups on the nature of information recalled. There were significant differences, however, between oral and silent reading on the nature of information recalled: more verbatim or synonymous information was recalled after oral reading, and more erroneous information was recalled following silent reading.

ROSE, TERRY L., & SHERRY, LEE. Relative effects of two previewing procedures on LD adolescents' oral reading performance. *Learning Disability Quarterly*, Winter 1984, *7*, 39-44.

Investigates the relative effects of silent reading and listening previewing procedures on five junior high learning disabled (LD) students' oral reading performance. Mispronunciations, omissions, substitutions, and unknown words were counted. Both silent and listening previewing procedures were generally more effective than no previewing. Results for one student were ambiguous. Listening appeared to be the better preview procedure.

POTTER, F.N. Miscue analysis: Some problems of interpretation and some possible solutions. *Reading*, July 1981, *15*(2), 21-26.

Discusses problems the author sees with oral reading miscue analysis and offers solutions to these problems. The problems presented relate to classifying substitutions that are both contextually acceptable and visually similar to the printed form as only contextual substitutions; word endings that designate grammatical class membership and their effects on substitutions; and the substitution for real words or nonwords that the reader later defines as real words.

SMITH, PHILIP T. Linguistic information in spelling. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 33-49.

Examines selected research on stress assignment when reading aloud, the role of the final 'e' when reading orally, and letter 'e' cancellation tasks when silently reading texts, in order to differentiate between processes in reading and spelling. The reader or speller is conceptualized as a multi-level processor utilizing different linguistic levels depending on the nature of the task.

IV-12 Rate of reading

HOMA, DONALD. An assessment of two extraordinary speed-readers. *Bulletin of the Psychonomic Society*, February 1983, *21*, 123-126.

Scrutinizes the perceptual and comprehension levels of two speed-readers reputed to have achieved reading rates exceeding 100,000 words per minute. They were submitted to three tasks: 1) the measurement of perceptual extent for briefly exposed single letters; 2) identification of words seen within paragraphs on a subsequent recognition task, and 3) text comprehension. On the text comprehension task, each speed-reader was given three opportunities to read a selection from a textbook with 3-5 days intervening between trials. Subjects received a 20-item multiple-choice test after each reading, with only the ordering of questions being changed for the tests. Performance on tasks 1 and 2 was indistinguishable from performance of normal readers, although the speed-readers exhibited greater tendencies to guess. On the comprehension task, both read at rates between 15,000 and 30,00 words/min. Both speed-readers would have failed the multiple-choice test. Neither exhibited improvement over repeated reading trials.

Brown, Bruce L.; Inouye, Dillon K.; Barrus, Kim; & Hansen, Dorothy M. An analysis of the rapid reading controversy. In John R. Edwards (Ed.). *The Social Psychology of Reading*, Volume I. Silver Spring, Maryland: Institute of Modern Languages, Inc., 1981, 29-50.

Details results from a series of studies supporting the conclusion that reading rates above those previously thought possible are achievable. The authors also review other writers and research previously done and suggest that claims of a top reading speed may be a function of the inability to view other theories as well as a misinterpretation of some previous findings.

Strader, Susan G., & Joy, Flora. Reading rate as a factor in comprehension at the college level. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 139-144.

Investigates the relationship between reading rate and comprehension. Subjects, who were college students enrolled in a reading and study skills course, read both paced and nonpaced materials during class time and recorded rate and comprehension scores for each reading. Correlation coefficients for rate and comprehension on paced and nonpaced materials were computed between the paired scores ($n = 202$) obtained. There was a strong relationship ($p < .001$) between rate and comprehension on nonpaced reading. Mean comprehension scores on paced materials were lower than on nonpaced materials ($p < .001$), although rate was higher ($p < .001$).

Lasisi, Monica J. The influence of reading time and reading rate on literal and interpretive comprehension. *Reading Improvement*, Fall 1983, *20*, 209-223.

Tests the extent to which literal and interpretive comprehension of a literary passage is related to reading time and words read per minute and whether 223 primary five subjects from nine schools in Nigeria have a discrepancy between their literal and interpretative comprehension. Subjects read a culturally appropriate passage, indicated the time involved in reading, and answered five multiple-choice comprehension questions. Reading time and speed appeared to have minimal influence on the correct or incorrect responses to literal and interpretive questions. Comprehension performance was better at the literal level than at the interpretative level.

Ramsel, Dee, & Grabe, Mark. Attention allocation and performance in goal-directed reading: Age difference in reading flexibility. *Journal of Reading Behavior*, 1983, *15*(3), 55-65.

Recounts that 117 subjects (40 fourth graders; 39 sixth graders, and 39 college students), all white, responded to two passages, 373 words and 408 words in length, with difficulty levels of 5.2 and 5.5 on the *Dale-Chall* readability analyses, and followed two different sets of instructions. One set of instructions asked the students to read carefully (control condition); the other set of instructions directed the students to read to answer four assigned questions which were to be memorized (question-cued treatment condition). Passages were divided into six segments and presented on slides. Viewing times were recorded for story segments both relevant and irrelevant to the assigned questions. Students were then asked to respond first to the assigned (relevant) and then were given unassigned (irrelevant) questions to answer. All age groups in the question-cued treatment condition were similar in spending more time on the segments containing answers to assigned questions; however, only the sixth-grade and college-age readers in the question-cued treatment condition recalled significantly more relevant than irrelevant information. The results suggest than an age change in the differential retention of relevant and irrelevant information, when questions are known beforehand, is not necessarily contingent upon a similar age change in attention allocation, as measured by the recorded viewing time.

IV-13 Other factors related to reading

Gottfried, Adele Eskeles. Relationships between academic intrinsic motivation and anxiety in children and young adolescents. *Journal of School Psychology.* Fall 1982, *20*, 205-215.

Tests the hypothesis that academic intrinsic motivation and anxiety are negatively correlated when both are differentiated into academic subject areas. Subjects were 77 fourth graders and 64 seventh graders. The average IQ of all subjects was 116. Academic intrinsic motivation was assessed with self-report inventory (IMI) developed and previously tested by the author. Academic intrinsic motivation is defined as the performance of learning activities for their own sake. The IMI is differentiated into the subject areas of reading, math, social studies and science. Academic anxiety was assessed with a self-report inventory (AI) developed by the author. The AI is differentiated for each of the four subject areas. Both AI and IMI were administered individually. Intercorrelation coefficients were computed for subjects at each grade level. The negative correlation coefficients between the four AI scales and their four corresponding IMI scales were all significant for fourth graders (-.33 to -.52) and for seventh graders (-.40 to -.55). For seventh graders, none of the other coefficients were significant (e.g., the results of the AI math scale did not significantly correlate with reading, science or social studies IMI results). For fourth graders, some of the other coefficients of correlation were significant, particularly between Science AI and IMI reading, social studies, and science. Concludes that the relation between anxiety and motivation is differentiated for each subject area.

Wark, David M.; Bennett, J. Michael; Emerson, Nadine; & Ottenheimer, Howard. Reducing test anxiety effects on reading comprehension of college students. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 60-62.

Investigates the effect of a treatment program for test anxiety on the reading comprehension of college students. The experimental group ($n = 8$) attended six one-hour sessions over two weeks, the first three of which were devoted to relaxation and desensitization for any fear of reading, and the second three of which involved teaching reading of the paragraph as a unit and cognitive intervention while reading. These subjects and a control group ($n = 8$) were pretested on the *Test Anxiety Survey* and pre- and posttested on the *Nelson-Denny Reading Test.* The groups were not equivalent on anxiety level. There was a significant increase in the comprehension scores of the treatment group as compared to the control group ($p < .02$).

Bennett, J. Michael, & Wark, David M. Test anxiety of college students – Test of a model. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 255-258.

Investigates the relationship between test anxiety and reading achievement on standardized reading tests. Subjects ($n = 84$) were undergraduate and graduate students enrolled in an efficient reading course. Students were classified as having high anxiety ($n = 25$), medium anxiety ($n = 32$), and low anxiety ($n = 27$) on the basis of the *Test Anxiety Scale.* They were administered the comprehension sections of the *Nelson-Denny Reading Test* and the

McGraw-Hill Reading Test. On the former, the high anxiety students scored at the 23rd percentile, medium anxiety students at the 47th percentile, and low anxiety students at the 50th percentile. On the latter test, scores were at the 50th, 73rd, and 87th percentiles, respectively. Differences were significant on both tests ($p < .01$). Item analysis showed no differences between groups for relative scores on detail versus reflective questions.

Spillios, James C., & Janzen, Henry L. Anxiety and learning disabilities. *School Psychology International*, July-September 1983, *4*, 141-152.

Investigates the effects of a relaxation procedure in reducing anxiety in learning-disabled boys and in increasing subsequent academic performance. Thirty boys between the ages of 9 and 12 were selected from classes for the learning disabled. A pretest-posttest control group design was employed. Subjects were randomly assigned to one of four groups: 1) pretest, treatment, posttest; 2) treatment and posttest; 3) pretest and posttest; and 4) posttest only. The *Peabody Individual Achievement Test* and *Metropolitan Achievement Test: Reading* were used to assess achievement and the *State-Trait Anxiety Inventory for Children* and the *Test Anxiety Scale for Children* were used to assess anxiety levels. The treatment involved giving the children training in progressive relaxation techniques in 12 sessions over a six-week period. Analyses of variance of gain scores showed that the treatment effect was not as beneficial as expected. Significant gains in favor of the treatment group were made only on the Mathematics subtest of the PIAT. Additional analysis suggested that the treatment was more effective for high anxiety children than for low anxiety children.

Spillios, James C., & Janzen, Henry L. The effect of relaxation therapy on achievement for anxious learning disabled students. *School Psychology International*, April-June 1983, *4*, 101-108.

Investigates the effects of relaxation therapy on achievement test scores of 36 learning disabled boys, ages 9-9 to 12-6. All subjects were at least two years below grade placement in reading, language, and mathematics and had a full-scale WISC-R score within one standard deviation of the mean. Instruments administered as pre- and posttests included the *Peabody Individual Achievement Test* (PIAT), the *State-Trait Anxiety Inventory for Children*, the *Metropolitan Achievement Test*-Reading (MAT), and the *Test Anxiety Scale for Children.* Pupils were assigned randomly to one of four groups. Training in progressive relaxation was given for a total of 12 twice-weekly sessions to experiment groups. Experimentals were further divided into high and low anxiety groups. Relaxation therapy did not effect any change in the experimental group scores on the A-State or A-Trait anxiety measures. Control groups' anxiety level did not change as a function of introducing a stress situation. Low anxious boys decreased their scores on the posttest on the PIAT Comprehension subtest but made significant gains on the General Information subtest. The results gave only minimal support for the general hypothesis of a relationship between anxiety and test performance.

Bryan, J.H.; Sonnefeld, L.J.; & Grabowski, B. The relationship between fear of failure and learning disabilities. *Learning Disability Quarterly*, Spring 1983, *6*, 217-222.

Asks whether learning disabled (LD) children are more likely than nonlearning disabled (NLD) children to show test anxiety. Subjects were 60 white children, 30 of whom had been diagnosed as LD and 30 of whom were NLD. Pupils were matched for grade, sex, race, and *Otis-Lennon Intelligence Test* scores. Included were 22 third graders, 6 fourth graders, 8 fifth graders, 12 sixth graders, 2 seventh graders, and 10 eighth graders. *Metropolitan Achievement Test* (MAT) scores were available for all but one child in reading and math. Pupils were given the *Sarason Test Anxiety Scale for Children* (TASC), the *Sarason Lie Scale for Children* (LSC), and the *Understandability Scale.* When scores were adjusted for defensiveness, LD pupils obtained higher test anxiety scores than did NLD children. For LD children, coefficients of TASC scores with math were -.35 and with reading, -.16. Coefficients between TASC and reading and math scores were -.25 and -.18, respectively, for NLD children. Analysis of covariance findings demonstrated that test anxiety scores for LDs were significantly related to reading and math achievement scores.

CARBO, MARIE. Reading styles change between second and eighth grade. *Educational Leadership*, February 1983, *40*, 56-59.

Describes changes in reading style between grades two and eight as determined by use of the Reading Style Inventory (RSI) administered to 77 second graders, 65 fourth graders, 65 sixth graders and 86 eighth graders. Between grades two and eight, children differed significantly on 10 elements of reading style: perception, motivation, structure, reading with adults, reading alone, reading with peers, intake of food and drink, time of day (of preferred reading time), need for, and mobility. Describes, in general, the difference between grades in these variables in terms of perceptual strengths and performance, emotional needs, sociological performance and physical needs.

HARROP, ALEX. Behaviour modification and reading attainment in the comprehensive school. *Educational Research*, November 1983, *25*, 191-195.

Notes the effects of promising to send a letter home if improvement in reading comprehension scores occurred. Subjects were 23 pupils, aged 11 to 12, in each of two comprehensive school classes in England. Pupils were given alternative forms of the *Wide Span Reading Test* as a pre- and posttest measure. The experiment class was informed that letters would be sent to parents of pupils who made good progress; control pupils received no information. Mean scores of the experiment group increased significantly over the five-month period; control group scores did not show a significant increase.

GUTHRIE, JOHN T. Scientific literacy. *Journal of Reading*, December 1983, *27*, 286-288.

Refers to three kinds of knowledge needed to be an effective reader (substantive, structural, and social interaction) and cites a research study supporting the need for each type.

BALL, EDMUND R.; PARKER, LINDA G.; & SAUNDERS, JOSEPH C. Incarceration and the rate of achievement of learning disabled juvenile delinquents. *Journal of Experiment Education*, Winter 1982/83, *51*, 54-57.

Seeks to determine the effects of incarceration on academic growth of learning disabled juvenile delinquents as well as the relationship between rate of achievement growth during incarceration and tenure in an institution. The sampling was composed of 50 male and 5 female delinquents, with an age range from 12-1 to 17-2 years. Academic achievement was determined by the *Comprehensive Test of Basic Skills* (CTBS), administered upon entrance and eventual discharge from the institution. Results indicated that incarceration did increase academic achievement but that a negative relationship existed between tenure and achievement rate growth.

TELFER, RICHARD J., & KANN, ROBERT S. Reading achievement, free reading, watching TV, and listening to music. *Journal of Reading*, March 1984, *27*, 536-539.

Views the relationship between time engaged in various media and reading achievement scores. A total of 234 students in grades 4, 8, and 11 were given an 11-item questionnaire asking for an estimate of the time spent listening to the radio, records, and tapes; watching television; reading for enjoyment; and reading assignments for school. Reading achievement was determined by scores on the *Gates-MacGinitie Reading Test*. Fourth and eighth graders watched more TV than did older students, but eleventh graders spent more time listening to music than did fourth graders. Pupils in grade four estimated that they spent more time reading for enjoyment (1.22 hours daily) than did eighth graders (.61 hours) or eleventh graders (.37 hours). Relatively low correlation coefficients were found between test scores and estimates of the time spent viewing or listening.

Ridley-Johnson, Robyn; Cooper, Harris; & Chance, June. The relation of children's television viewing to school achievement and I.Q. *Journal of Educational Research*, May/June 1983, *76*, 294-297.

Examines the relation between television viewing behavior, math and reading grades, and intelligence test scores. Subjects were 322 children in grades five through eight. A three-part questionnaire was used to assess viewing habits and preferences. IQ (n = 261) was determined from the school administered *Lorge-Thorndike Inventory;* fall semester math (n = 290) and reading (n = 277) grades were used. The mean number of hours watched per week was 34.17, with comedy being the most frequently watched type of show and sports least watched. Children whose parents had rules concerning TV viewing (47%) tended to have higher math grades (r = .12), higher reading grades (r = .11) and higher IQs (r = .15). Reading grades were negatively associated with total number of shows watched (r = -.12) and total hours watched (r = -.14). No viewing preferences were associated with reading grades.

Tammivaara, Julie Stulac. The effects of task structure on beliefs about competence and participation in small groups. *Sociology of Education*, October 1982, *55*, 212-222.

Examines the effects on rates of participation in small groups of task structure and beliefs about reading competence. The subjects of the experiment were 144 fifth- and sixth-grade boys. On the basis of self evaluation about reading ability and reading scores on the *Comprehensive Test of Basic Skills*, subjects were assigned to groups of four, two good readers and two poor readers. None of the members of a group were acquainted with the others prior to the study. In front of the entire group, each subject's reading ability was reported. Groups were then given a problem solving task requiring consensual decisions. In the experimental groups, subjects were given instructions that disassociated reading ability from the task. No such instructions were given to the control group. There was a main effect difference for reading status, with the role of participation of high status subjects being higher. There was an interaction effect between status and treatments; there was greater participation by high status boys in the control group than in the experiment group.

Leiter, Jeffrey. Classroom composition and achievement gains. *Sociology of Education*, July 1983, *56*, 126-132.

Examines the influence of levels of abilities in a class (classroom composition) on the reading and mathematics learning of one cohort (294 pupils) of third graders enrolled in 20 classes in six schools. Reading scores on a standardized test administration governed class placement, with the assignment procedure maximizing homegeneity of achievement levels within each classroom. Classroom composition variables investigated were heterogeneity of class, achievement level of class, interaction of heterogeneity and level, proportion white, and proportion female. Control variables were earlier achievement test scores, gender, race, days absent, and number of third graders in school. Pupils with high ability classsmates tended to make substantially greater mathematics gains than those with low ability classmates. Reading gains were much less affected by classroom ability composition. Explanations might be the home experiences of the pupils with reading, the subdivision of the class for reading groups within the already grouped class, and the difference in tailoring of the curriculum within reading groups. Neither the homegeneity of abilities nor the interaction of homogeneity and level had a significant effect on achievement gains in either reading or mathematics.

SCHMIDT, WILLIAM H. High school course-taking: Its relationship to achievement. *Journal of Curriculum Studies*, July-September 1983, *15*, 311-332.

Weighs the effects of quantity of schooling in six academic areas of the high school curriculum on achievement in vocabulary, reading comprehension, mathematics, science, social studies, and English, while controlling for background characteristics of students (including ability, sex, race, and social class). Quantity of education was defined as the total number of hours of instruction in an area a student receives during his/her last three years of high school; i.e., the amount of time that the student is at least nominally exposed to schooling of some sort. Quantity of schooling is a measure of exposure to a certain curricular area. The data were collected also on school enrollment size, percentage of minority students, and the wealth of the community as part of the National Longitudinal Study of the High School Class of 1972 (NLS). Achievement data came from the NLS battery and included vocabulary, reading, and mathematics. Concluded that student background and school and community characteristics serve at least in part as determiners of quantity of schooling. Regression coefficients relating quantity of schooling to achievement were performed. For vocabulary scores, the findings included that there were no sex differences when background characteristics and quantity of school measures are controlled for. For reading, males performed better than girls and reading comprehension was influenced by time spent in reading.

HUTCHINSON, BARBARA B. Finger localization and reading ability in three groups of children ages three through twelve. *Brain and Language*, September 1983, *20*, 143-154.

Explores the relationship between eight finger localization (FL) tasks and two specific reading tasks in normal, dysphasic, and language-impaired children without dysphasia. Subjects were 140 normal-language children, 23 children diagnosed as having language problems without dyslexia or dysphasia, and 11 children diagnosed as dysphasic. The age range was from 3 through 12. The reading tasks consisted of matching spoken to printed words and silent reading and recall of a paragraph. Ceiling items on tests differed for various age levels. Only children aged 7 through 12 were given the task of reading a paragraph and retelling it. While 59% of the variance in the matching spoken to printed word scores was attributable to FL ability, only 12% of the variance in reading and retelling a paragraph was so attributable. FL scores showed their largest incremental gains prior to age seven and tended to plateau after that age.

DEMPSTER, FRANK N., & COONEY, JOHN B. Individual differences in digit span, susceptibility to proactive interference, and aptitude/achievement test scores. *Intelligence*, October-December 1982, *6*, 399-416.

Gives results of two experiments investigating the correlation between digit span, proactive interference, and various aptitude/achievement test scores. Subjects were 24 and 28 students, respectively, in Experiments 1 and 2, mostly college sophomores and juniors. In Experiment 1, subjects received six digit span tests consisting of nine series of increasing length, ranging from 4 to 12 digits. At a second session, they were given a serial position recall task utilizing letters or words. Other measures included the *Scholastic Aptitude Test* (SAT) Verbal, Mathematical, Reading Comprehension and Vocabulary, and Standard Written English subtests; the *College Entrance Examination Board* (CEEB) English Composition Test and Mathematical Achievement Test; and the *Nelson-Denny* (ND) Reading Rate, Reading Comprehension, and Vocabulary Tests. Experiment 2 was similar in design but used a different index of susceptibility to proactive interference. Moderate to high correlation coefficients were found between digit span and most of the aptitude/achievement test scores. No evidence was found that susceptibility to proactive interference is a source of span differences. Results of Experiment 2 suggested that susceptibility to proactive interference is a source of individual differences in reading comprehension and vocabulary scores but not in grammar and word usage skills, reading rate, or quantitative measures.

Margolin, Carrie M.; Griebel, Barbara; & Wolford, George. Effect of distraction on reading versus listening. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, November 1982, *8*, 613-618.

Addresses the issue of whether distracting tasks interfere more with reading than with listening. The 32 undergraduate subjects were divided into two groups, one group using counting aloud as a distracting task and the other had reaction time to electric shock as the distractor. Stimulus materials consisted of four sets of 64 series of three unrelated sentences. Sentences were presented either visually or aurally. A test sentence, to be identified as either old or new and always presented visually, followed the three-sentence series. Each presentation mode was coupled with one of three levels of distraction: no distraction, counting aloud, or a key press to a threshold shock. Counting interfered only with visual presentations. The shock task resulted in poorer performance in the visual modality only.

Johansson, Curt R. Effects of low intensity, continuous and intermittent noise on mental performance and writing pressure of children with different intelligence and personality characteristics. *Ergonomics*, March 1983, *26*, 275-288.

Examines the effects of silence, intermittent noise, and continuous noise on learning a series of nonsense syllables accompanying pictures, memory for the syllables, reading speed and comprehension, a multiplication task, and writing pressure. Ninety-four 10-year-olds in fourth grade in Sweden participated, 28 in a pilot study and 66 in the main experiment. Subjects were administered the *WIT II* test of general intelligence and a serial color word test to assess personality. Reading rate and comprehension were determined by the Swedish standard tests for the fourth syllabus of 1958 and the sixth syllabus of 1961 and 1965. Random assignment was made to one of the three conditions. For five of the seven performance measures, the best score was made under conditions of continuous noise. It was concluded that octave band noise within the speech frequency spectrum similar to that normally occurring in classrooms has no general effects on mental performance. However, less able children, as identified by the intelligence score, tended to be more affected by treatments than did others. This was most noted for performance in reading speed.

IV-14 Factors related to reading disability

White, Michael, & Miller, Sidney R. Dyslexia: A term in search of a definition. *Journal of Special Education*, Spring 1983, *17*, 5-10.

Reviews articles appearing in the *Journal of Learning Disabilities*, from 1971 to 1980, to determine: how dyslexia is currently defined, and if researchers specify the type of dyslexia under investigation. It was found that 87% of the definitions that appeared in the 45 articles reviewed, regarded deficient reading or spelling scores from standardized tests as the criteria. Of the studies employing this type of definition, eight failed to reference the test(s) used to determine the level of reading or spelling; six defined dyslexia in terms other than a standardized test score. Three defined the disorder in terms of membership in a special group: remedial reading clinic, low reading group, or class for educationally handicapped. Three others defined dyslexia as failing grades in reading, severe reading problem, and poor performance on an informal word-recognition test. Of the 45 studies reviewed, only one attempted to classify dyslexics into homogeneous subgroups.

Lowenstein, L.F. Dyslexia: Fad and fashion or specific diagnostic category? *School Psychology International*, July-September 1983, *4*, 159-168.

Reviews definitions of dyslexia appearing in recent literature and focuses on some of the surrounding controversies and confusions, some of the associated symptoms, and suggested treatment. It is argued that the evidence exists that shows there is an existing condition of specific dyslexia and a six-month-long experiment to study the effectiveness of different remedial approaches is reported. Four boys and two girls, ages 10-13, were matched for initial reading deficit, initial neuroticism score, initial introversion-extroversion score, and assessment on the *Thematic Apperception Test* (TAT). Three of the children were diagnosed as having specific dyslexia and three as having severe reading problems. Two teachers instructed children one-and-a-half hours per week. One teacher (A) believed in the concept of dyslexia as distinct from other reading problems; the other (B) did not. Children were assigned without the teachers being aware of a child's diagnostic category. The methods used by teacher A were specific to help visual and auditory dyslexics. Teacher B followed her regular remedial procedures. The author notes that children diagnosed as being dyslexic improved more in reading under instruction geared to treating specific dyslexia than under other remediation; children who were not diagnosed as dyslexic did less well with methods related to treating dyslexia than they did with other methods.

Mosse, Hilde L. *The Complete Handbook of Children's Reading Disorders*, Volumes 1 and 2. New York: Human Sciences Press, Inc., 1982.

Presents in two volumes the author's understanding of reading and reading disorders. Selected research is presented as are excerpts from case studies of disabled readers. The first volume emphasizes the clinical method and information to be collected in evaluating reading behavior. Reading, writing, and arithmetic disorders are discussed from an organic, psychogenic, and sociogenic basis as well as treatment. Volume 2 focuses on specific disorders and syndromes often associated with reading disorders on an organic basis. These include speech disorders, cerebral palsy, mental deficiency, convulsive disorders, musical ability disorder, and rhythmic ability disorder. In addition, unspecific and general symptoms are discussed. Included among these are sections headed Attention Disorders, Perseveration, Hyperactivity, Hypoactivity, Inability to Tolerate Disorder, and Fatiguability.

Doehring, Donald G.; Trites, Ronald L.; Patel, P.G.; & Fiedorowicz, Christina A.M. *Reading Disabilities: The Interaction of Reading, Language, and Neuropsychological Deficits*. New York: Academic Press, 1981.

Details a large scale investigation of the interaction of reading, language, and neuropsychological deficits in different types of reading disabilities. A battery of test items, previously administered to normal readers and readers in K through grade 11 and to two samples of reading disabled children, were given to 88 subjects, ages 8-17. The instruments consisted of 39 tests of reading-related skills, 22 language-related tests, and 37 neuropsychological tests. The sample as a whole was deficient in most reading skills. Visual skills were least impaired; oral reading skills most impaired. Based on their reading score patterns, subjects were classified into three types of reading skill deficits: oral reading disability (Type O), associative reading disability (Type A), and sequencing reading disability (Type S). Sixteen subjects were unclassified. Type O subjects tended to be less impaired on standardized achievement tests compared to Type A, and their neuropsychological test performance was closer to normal than that of the other groups. On language measures, they were as impaired as the others, and there was evidence for subtypes within Type O. Subjects of Type A deficit had problems in rapidly associating printed and spoken words, syllables, and letters. They were more deficient on standardized reading achievement tests than were the other two groups. Neuropsychological tests also differentiated Type A from the other groups and suggested more intellectual impairment. They were also slower in finger tapping with both hands than Type O or Type S. Type S showed letter and number reading superior to word and syllable reading. Type S problem involved a visual deficit as well as auditory-visual and oral reading deficits, but Type S subjects tended to be less impaired on standardized tests than Type A subjects. Comparisons with previous research findings and suggestions for future research directions are made.

Shanahan, Timothy. Three explanations of reading disability. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 301-308.

Reviews 74 research studies concerning cognitive, perceptual, or linguistic aspects of reading disability, and which used good reader-poor reader comparisons. Three theoretical explanations of reading disability are examined: the visual-perceptual explanation, the verbal-deficit explanation, and a developmental explanation. It is concluded that the most powerful explanation of reading disability is that it is caused by verbal memory deficiencies.

Gribble, Helen. "J for giraffe" spells fear: The adult literacy experience – Some implications for schooling. *Australian Journal of Reading,* August 1983, *6,* 137-143.

Refers to as yet unpublished case study research carried out with 20 adult literacy students in Australia. Preliminary results are presented and information gleaned from interviews with one student in particular, a male in his early forties, is given. All students were interviewed relative to family history, work experience, schooling, and their notions about adult literacy. Among the findings of the research is that students may have a fear of literacy itself. Those subjects who have broken free of earlier dependencies and have become confident in areas of their lives appear to learn quickly, while those who lack confidence at work and who have not established satisfying relationships with other adults learn at slower rates. Reflections of subjects on school experiences appeared to fall into three themes: 1) they permitted themselves to be excluded from instruction but wish they had been able to confront their need to learn; 2) they wish their parents had been drawn into the process of their education and blame their parents for not being involved; 3) they recall and set great store by instances of kindness and encouragement.

Hulme, C. *Reading Retardation and Multi-Sensory Teaching.* London: Routledge & Kegan Paul, 1981.

Includes reports on 14 experiments with adults and children ($12 < n < 28$), designed to investigate the relationships between phonological codes and kinaesthetic and visuo-motor codes in memory for letters and letter strings. Retarded readers were children with normal intelligence who were at least one year retarded in reading (as tested on the *WISC* and the *Neale Analysis of Reading Ability*). It is argued that a major cause of reading retardation is some form of verbal learning difficulty and not weakness in visual perception and memory, and that tracing around forms improves memory for them due to the production of a separate motor memory trace. However, tracing did not improve order memory, although it did facilitate the learning of arbitrary names for visual symbols.

Blowers, E.A. The C's – A case history of a "learning disabled" family. *Special Education in Canada,* Winter 1982, *56*(2), 15, 17-18.

Presents a case history of a learning disabled family that included the mother and five school age children who shared the problems of generally depressed verbal abilities, particularly auditory memory, poor reading, social isolation, unstable home conditions, and apparently limited access to appropriate medical and educational services. The mother completed the WAIS; 10 subtests of the *Illinois Test of Psycholinguistic Abilities,* omitting Verbal Expression and Grammatic Closure; the *Wepman Test of Auditory Discrimination;* and the *Frostig Developmental Test of Visual Perception.* The five children completed the WISC, all sections of the *Illinois Test of Psycholinguistic Abilities,* the Wepman, sections on word recognition from the *Schonell Reading and Spelling Tests,* and the *Botel Inventory.* It was felt that the family was experiencing some type of genetic transmission of delayed or arrested auditory sequencing, as well as a predisposition to enuresis, and stated that these genetic tendencies might well have been intensified by the environmental problems experienced in the family.

Lowenstein, L.F. An empirical study of the incidence, diagnosis, treatment and follow-up of academically under-achieving children. *School Psychology International*, October-December 1982, *3*, 219-230.

Carries out a survey of underachievement in one British Primary and one British Comprehensive school and then does an intensive study of 30 children, ages 9 to 15, and 35 adolescents, ages 15 to 18, who were given special treatment. For the 65 subjects, a matched control of approximately the same age, IQ, and underachievement disability was selected. Treatment was for six months with a follow-up 5 to 10 years later. Children thought to be underachieving were given the following tests: a short form of the WISC, the *Schonell Word Recognition Test*, the *Schonell Spelling Test*, the *Lowenstein Diagnostic Inventory* for mathematics, and the *Lowenstein Underachievement Multiphasic Diagnostic Inventory* (LUMDI). Treatment was carried out by a psychologist, teachers, and parents working as a team. According to results of the LUMDI, the major reasons for underachievement at school were lack of perseverence, depression, setting standards too high, submissiveness, and hostility. The commonist approach to underachievement was a mixed or eclectic therapy. Experimentals improved academically, intellectually, and behaviorally compared with controls. In the 5- to 10-year follow-up, 49 subjects were reported as much improved, 14 as somewhat improved, and 2 as showing deterioration or no change.

Duane, Drake D. Neurobiological correlates of reading disorders. *Journal of Educational Research*, September/October 1983, *77*, 5-15.

Posits the need for collaboration between neuroscientists and educators in order to improve the quality of research in the area of brain-behavior relationships. Research is reviewed leading to this thesis. The article begins with a historical overview of how investigators in medicine and specifically the neurosciences have evolved the concept of selective underachievement in reading. The literature pertaining to dyslexic subtypes is briefly referred to and the broadening of the notion that reading disorders are disorders of language is discussed. Traced are lines of current research and reasoning on the extent to which there may be anatomical, physiological, and biochemical correlates in the central nervous system with written language underachievement. Reviewed are studies in computed tomography, cytoarchitectonic studies, studies on electroencephalography, and studies in neurochemistry.

Kagan, Jerome, & Moore, Michael J. Retrieval and evaluation of symbolic information in dyslexia. *Bulletin of the Orton Society*, 1981, *31*, 65-73.

Conducts a two-year longitudinal study to evaluate the validity of certain traditional hypotheses about the causes of serious reading impairments. Subjects were 35 reading disabled and 35 normal readers who were matched controls. All subjects were male, white, unilingual and middle class. The reading disabled subjects ranged in age from 8-0 to 12-5 (mean age was 10-5); had WISC-R scores in the range of 90 to 120; were reading at least two grades below grade level; and had no visual, auditory, or emotional handicaps. The control group was matched to the reading disabled group for age, ordinal position, and education and occupation of the parents. Initial data consisted of results from the *Gilmore Oral Reading Test*, the WISC-R, measures of auditory and visual acuity, and psychosocial history as reported by parents. Tests administered included measures of perceptual functioning, recall memory, decision time, and blinking rate. No evidence of auditory or visual deficits were found. Disabled readers demonstrated significantly less recall words presented orally in lists and in context, written words, pictures, and digits than the normal readers. Training subjects to recall digits did significantly increase digit span memory on decision time tasks.

Johnston, Rhona S. Developmental deep dyslexia? *Cortex*, April 1983, *19*, 133-139.

Describes a case of developmental deep dyslexia, an 18-year-old female. Reading age on the *British Ability Scales Word Reading Test* was 6-2, and her full-scale WISC IQ was 75.

On a test of high- and low-imageability nouns, verbs, and adjectives, only one low-imageability word was correctly read, whereas nine high-imageability words were read correctly out of 60. Given the task of sorting words from nonwords, the proportion correct for nouns was .76 and for function words, .85. The subject made semantic, visual, and derivational errors in reading aloud and generally displayed features of reading common to the acquired deep dyslexic.

Temple, Christine M., & Marshall, John C. A case study of developmental phonological dyslexia. *British Journal of Psychology*, November 1983, *74*, 516-533.

Presents case study data on a 17 year-old girl diagnosed as having developmental phonological dyslexia. Her performance on the WISC, on *Raven's Progressive Matrices Test*, and the *Peabody Picture Vocabulary Test* tended to be within the average or better-than-average range. Reading (Schonell, Neale) and spelling (Schonell) performances were impaired. When presented with a list of 25 words and 25 nonwords, differing by only one letter, she read all words correctly but only nine nonwords were correctly pronounced. Given a second list of 40 nonsense words, half of which were homophonic with real words, she read the nonword homophones better than the nonwords that were not homophonic with real words. Many of her reading errors were derivational or visual paralexias. She made no semantic errors or errors of regularization and few neologistic responses. Her spelling errors tended to be phonological. When continuous text was read aloud, there was a function word deficit. Her disabilities were consistent with other reported cases of acquired phonological dyslexia.

Bemporad, Brenda, & Kinsbourne, Marcel. Sinistrality and dyslexia: A possible relationship between subtypes. *Topics in Learning & Learning Disabilities*, April 1983, *3*(1), 48-65.

Discusses *sinistrality*, referring to mix-handedness, ambidexterity, or left-handedness as *nonright-handedness*, and endeavors to distinguish between individuals who use the left hand for all unimanual tasks and those who commonly use the right hand for some and the left for others. Summarizes evidence on reasons why nonright-handers have been considered at risk for cognitive deficits; observes that some studies have defined left-handedness in so restricted a fashion that one or more subtypes of nonright-handers have been excluded; presents the evidence of deficits in nonright-handedness, asserting that some nonright-handers perform worse on some spatial tasks, and that the term spatial is too global and needs differentiation and refinement. Seeks to link sinistrality with dyslexia; declares dyslexia is increasingly being regarded as a group of disorders characterized by correlates of deficits associated with: 1) language (auditory or phonemic) functions; 2) visual-spatial (perceptual) functions; or 3) both 1 and 2. Reports that evidence from various research efforts supports two major types of visual-spatial deficits associated with dyslexia. The first includes symptoms that point toward dominant parietal or biparietal dysfunctions, while the second is characterized primarily by a relationship between deficits in *Wechsler Performance IQ* and Raven's *Coloured Progressive Matrices* scores, implying that this subtype of dyslexia represents right-posterior brain impairment. Declares that the most secure evidence for a relationship between sinistrality and dyslexia could be more direct: the identification of a subtype of dyslexia characterized by a high incidence of left-handedness and/or familial sinistrality; believes there is cumulative evidence that familial left-handedness, thought not a characteristic of all dyslexic conditions, may characterize this subtype.

Russell, Gerald. Impairment of phonetic reading in dyslexia and its persistence beyond childhood – Research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, October 1982, *23*, 459-475.

Investigates whether disorders of reading may arise from a defective processing of spoken sounds. Sixteen adolescent and adult dyslexic subjects, 10 of whom had been followed from childhood, were compared with a control group of normal subjects ($n = 18$) using constructed tests of phonetic reading and writing, the *Schonell Graded Word Tests* for reading and spelling, and a test of visual discrimination. The dyslexics scored lower on both tests of reading ($p < .001$), but an index of severity of reading disability was significantly related to scores on the phonetic test only ($p < .01$). Scores on the phonetic writing test and the spelling test were related for normal subjects only ($p < .05$), and there was a difference between dyslexic and normal subjects for both tests ($p < .001$). There was no difference in visual discrimination ability between the two groups. Results are interpreted as evidence that dyslexia is due to a defect of verbal processing which may persist beyond childhood.

FUNNELL, ELAINE. Phonological processes in reading: New evidence from acquired dyslexia. *British Journal of Psychology*, May 1983, *74*, 159-180.

Investigates the reading performance of two subjects with acquired dyslexia. The first subject read aloud all classes of words (85-95% correct) but failed to read nonwords. Semantic judgments about written words were significantly impaired, relative to the ability to read them orally. The second subject read aloud nonwords, but was unable to provide phonetic sounds appropriate to single letters. Results are taken to indicate the presence of a nonlexical phonological route in reading.

KANDEL, GILLRAY L., & TSAO, YAO-CHUNG. Implications of neuropsychological findings for the reading instruction of boys and girls. In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia.* Towson, Md.: The Orton Dyslexia Society, 1981, 169-187.

Discusses dyslexia in two reading modes: alphabetic (phonological) and whole-word (logographic), considering cognitive style, sex of the learner, and reading instruction, leading into a consideration of cognitive styles and remediation of dyslexias. Research in each area is reviewed. Identified are four types of dyslexia: the most prominent (60%) dyslexics are those whose phonological skills appear to be adequate and are sometimes referred to as auditory dyslexics or disphonetics. The most suitable remedial method recommended is a whole-word approach. A second and less prevalent group (13%), described as visual or dyseidetic, sometimes acquires phonological skills sufficient to enable them to word-call or read in a laborious manner. Their reading is rooted to the visual element and its corresponding phoneme. An emphasis upon phonological skills is recommended for this group. Also identified are a third (dyseidetic-dysphonic) and a fourth (unclassified) type of dyslexia. The third is characterized by those having poor phonological skills as well as poor ability to perceive configurations. For this type instruction should be tactile kinesthetic remedial techniques followed by remedial phonics, when letter forms can be recognized.

MATTIS, STEVEN. Dyslexia syndromes in children: Toward the development of syndrome-specific treatment programs. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading.* New York: Academic Press, 1981, 93-107.

Describes previously published research by the author and others which identifies three syndromes of dyslexia: language disorder dyslexia, articulatory-graphomotor dyscoordination dyslexia, and visual-perceptual disorder dyslexia. It is concluded that the selection criteria and assessment techniques exist for the reliable detection and differentiation of these reading disorders, and syndrome-specific treatment programs are suggested.

SATZ, PAUL, & MORRIS, ROBIN. Learning disability subtypes: A review. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading.* New York: Academic Press, 1981, 109-141.

Examines different approaches to the classification of reading disability and argues that it is not a homogeneous diagnostic entity. Research using a clinical-inferential classification approach is criticized and compared to studies using a statistical classification approach. A classification on achievement and neuropsychological variables is undertaken on previously published data using cluster analysis. Five distinct subtypes are identified on the basis of the analysis.

Rodgers, B. The identification and prevalence of specific reading retardation. *British Journal of Educational Psychology*, November 1983, *53*, 369-373.

Takes a national sample of 8,836 10-year-olds in Britain and analyzes their scores obtained from a shortened version of the *Edinburgh Reading Test* (ERT) and the Word Definitions, Recall of Digits, Similarities, and Matrices scales from the *British Ability Scales* (BAS). Both the ERT and total BAS scores were standardized to have a mean of 100 with a standard deviation of 15. Scores for 8,461 of the children were submitted to regression analysis procedures with the BAS scores as the independent variable and ERT score as the dependent variable. A correlation coefficient of .730 was obtained between the BAS and ERT scores. Analysis failed to show that the prevalance of specific reading retardation was greater than that predicted from the assumption of a normally distributed index of under-/overachievement. The author interprets the results as suggesting that specific reading retardation is the extreme of the continuum of underachievement and that any cut-off point used for its definition is arbitrary. Any estimates of the prevalance of specific reading retardation must be accompanied by the precise criteria used for its identification.

Friedman, Rhonda B., & Perlman, Marjorie B. On the underlying causes of semantic paralexias in a patient with deep dyslexia. *Neuropsychologia*, 1982, *20*, 559-568.

Focuses on the semantic paralexia feature of deep dyslexia in a case study of a 54-year-old male admitted to the aphasia unit of a hospital for evaluation of speech difficulties. Language was assessed with the *Boston Diagnostic Aphasia Examination*. Spontaneous speech was nonfluent with little sentence structure; nouns predominated. Auditory comprehension was mildly impaired and writing was virtually nonexistent. Reading comprehension at the word level was relatively well preserved as was comprehension of sentences. Oral reading was markedly impaired. A list of 15 abstract and 15 concrete nouns was given to the patient for oral reading. He correctly read 12 concrete words and 6 abstract ones. Next he was given a list of 198 words to read; words were dived into nouns, adjectives, verbs, ambiguous words, and all others (mainly functors). While 61% of the nouns were read correctly, only 13% of functor words were. Of a list of 28 nonwords, the patient was able to read none correctly. Other tasks designed to assess nonsense word recognition showed the same marked impairment. An oral reading task paired with a picture masking task using the same words revealed two causes of semantic paralexias: word retrieval difficulties and impaired concept arousal. The authors suggest that the major component of the deep dyslexia syndrome may reflect a deficit which is not specific to the written modality.

Varney, Nils R. Letter recognition and visual form discrimination in aphasic alexia. *Neuropsychologia*, 1981, *19*, 795-800.

Studies the performance of aphasics in matching upper- and lower-case alphabet letters in relation to reading comprehension, listening comprehension, and visual form discrimination. Subjects were 75 aphasics and 25 controls, all inpatients at a VA Medical Center. Letter matching consisted of a 20-item test that required matching upper- and lower-case letters which were not identical in shape between cases. The Reading Comprehension and Aural Comprehension subtests of the *Multilingual Aphasia Examination* were administered. On the Letter Matching test, all controls received scores of 17 or above with 15 obtaining errorless scores. Among aphasics, 20 obtained scores of 15 and below on Letter Matching, with a score of 16 and below classified as defective. All aphasics with defective Letter Matching scores were severely or totally impaired in reading comprehension; an additional 19 aphasics also failed the reading comprehension. Mean aural comprehension score was significantly better than mean reading comprehension score for aphasics with defective letter matching. Seventeen aphasics with defective letter matching failed the visual form discrimination task.

HICKS, CAROLYN, & SPURGEON, P. Two factor analytic studies of dyslexic subtypes. *British Journal of Educational Psychology,* November 1982, *52,* 289-300.

Carries out a factor analysis study in an attempt to delineate dyslexic subtypes from two distinct subject groups. The two groups of subjects were : 1) a clinical group of 640 children referred for assessment of literacy problems, and 2) a screening group of 180 children classified as underachieving in literacy skills. Subject age range was 8-0 to 11-11, only those with an IQ of 90 or above were included, and reading and spelling ages were 18 months below chronological age. In addition, children exhibited two or three of the following symptoms: directional confusion, spelling problems, poor graphomotor ability, clumsiness, speech difficulties, sequencing problems, limited short term memory, left and mixed handedness, and difficulty in repeating polysyllabic words. Factor analysis revealed four factors in the clinical group: 1) literacy, 2) intelligence, 3) auditory dysfunction, and 4) a visual/verbal dysfunction. Results from the clinical group suggested two distinct subtypes of dyslexia, one involving an auditory processing skills deficiency and the other involving deficiency in verbal mediation skills. Factor analysis of the screening group yielded three factors: 1) an auditory problem similar to Factor 3 in the clinical group, 2) a visual/verbal problem similar to Factor 4 in the clinical group, and 3) a literacy factor.

TELZROW, CATHY F.; CENTURY, EVELYN; WHITAKER, BARBARA; REDMOND, CAROL; & ZIMMERMAN, BARBARA. The Boder Test: Neuropsychological and demographic features of dyslexic subtypes. *Psychology in the Schools,* October 1983, *20,* 427-432.

Investigates the validity of the *Boder Test of Reading-Spelling Patterns* as a screening device for subtypes of specific dyslexia. The Boder Test was administered to 30 children, ages 7-3 to 12-7, who had been identified as having specific learning disabilities (LD). Children were then classified into one of six categories: normal reader, nonspecific reading disability with normal reading/spelling pattern, dysphonetic dyslexic, dyseidetic dyslexic, mixed dysphonetic-dyseidetic dyslexic, and undetermined dyslexic. Additional data collected for children included Verbal (V), Performance (P), and Full-Scale WISC IQs; handedness; average finger oscillation rates for right and left hands; and various demographic factors such as age, sex, ethnic group, and number of months in LD program. Five children were identified as normal readers or readers with nonspecific reading disabilities, 19 as dysphonetic, 2 as dyseidetic, and 4 as mixed. No significant differences were found among groups for IQ, age, or length of time in the LD program. Proportions of children placed in the various categories agreed with findings from earlier studies. Significantly fewer dysphonetic readers were represented in the V > P and Spatial < Sequential IQ groups, and left-handedness and left-hand tapping preferences were overrepresented in the mixed dyslexic category. Black children who were classified as LD on other tests were categorized as normal readers on the Boder.

PIROZZOLO, FRANCIS J.; DUNN, KAY; & ZETUSKY, WALTER. Physiological approaches to subtypes of developmental reading disability. *Topics in Learning & Learning Disabilities,* April 1983, *3*(1), 40-47.

Reviews evidence collected over the last two decades supporting the existence of at least two types of developmental dyslexia, dyseidetic (visual-spatial) and dysphonetic (auditory linguistic). It is concluded that disabled readers with dysphonetic dyslexia considerably outnumber those with dyseidetic dyslexia. The former display no evidence of eye-movement disorders, whereas the latter show a number of aberrant eye movements which probably result from poor visual-spatial programming of the eye movements rather than from impairments in the motor mechanisms responsible for eye movements themselves.

Wright, Stephanie, & Cowen, Emory L. Student perception of school environment and its relationship to mood, achievement, popularity, and adjustment. *American Journal of Community Psychology*, December 1982, *10*, 687-703.

Studies the psychosocial environment of fifth- and sixth-grade classrooms in relation to children's mood, academic performance, popularity, and adjustment. Subjects were from 23 classrooms and totaled 511 children at pretest and 403 at posttest. A short form of the *Classroom Environment Scale* was used to assess class environment; mood was determined by the 20-item *Mood Adjective Checklist;* academic achievement was assessed by the *Stanford Achievement Tests*, and report card grades in reading and arithmetic were used as a measure of academic performance. Teacher ratings on the *Classroom Adjustment Rating Scale* (CARS) and the *Health Resources Inventory* (HRI) were used for classroom adjustment. Pupils rated all classmates on two 3-point sociometric scales. Based on pretest CARS-HRI scores, four subgroups of children were identified for intensive study. No relationships were found for any children between perceived class environment and academic achievement.

Gettinger, Maribeth, & Fayne, Harriet, R. Classroom behaviors during small group instruction and learning performance in learning disabled and nondisabled children. *Journal of Educational Research*, January/February 1982, *75*, 182-187.

Investigates the relationship between observed behaviors during small group phonic instruction and overall learning performance (learning rate, amount learned, and retention). Subjects were 42 learning disabled children observed for six-minute periods on each of five days during a three-week period of instruction. Sixteen training words and 28 transfer items were given as a pre- and posttest. Behaviors studied were: inattentive behavior, off-task verbalizations/vocalizations, nonacademic/nondisruptive behavior, impulsive behavior, disruptive behavior, and inappropriate location. Posttest scores were used to assign children to either a below average or an average group. Significant main effects for achievement level were noted on the following behaviors: inattention, nonacademic, nondisruptive behavior, impulsive behavior, and inappropriate location. Those who gained the most in skills exhibited fewer of these behaviors. Frequencies of nontask oriented behaviors correlated negatively with posttest performance. In Study 2, a comparison was made to a group of 28 nondisabled children, using the same procedures. Significantly lower mean frequencies of behaviors for non-LD children were noted in all categories. Pearson Product-Moment correlation coefficients suggested the only relation of significance for the non-LD group was the relationship between attention and achievement.

Stott, Denis H. Behavior disturbance and failure to learn: a study of cause and effect. *Educational Research*, June 1981, *23*, 163-172.

Reports a follow-up study designed to examine the question of cause and effect in the association of poor learning and behavior disturbance. Subjects were a cohort of all children entering kindergarten in Quelph, Ontario. Within three months of entering school, each subject had been screened by their teacher for behavior problems. There were six types of behavior rated: timidity, emotional distance, lethargy, hyperactivity, impulsivity and hostility. These behaviors were rated on a four-point scale: no problem somewhat of a problem, definitely a problem, an extreme problem. Children in either of the latter two categories were classified by the author as having behavior problems. At the end of second grade, 1100 of the 1292 subjects were administered *SRA Achievement Tests* in Reading and Math, and trained second grade teachers completed the six-question behavior rating scale. A number of findings are presented and discussed, including data relating socioeconomic status, behavior and achievement. The major finding was that the second grade behavioral ratings of those children who were poor learners in second grade were no different than their behavioral ratings in kindergarten. From this the author concludes that poor learning could not be a cause of maladjustment. The statistical relation between each of the six scales of the two administrations of the questionnaire and reading and math achievement were also reported. All 24 relations were significant. 20 of the 24 were negatively related and 4 were positively related. Lethargy and hyperactivity in both grades were found to be the most clearly associated with reading and math achievement.

Bale, Peter. Behaviour problems and their relationship to reading difficulty. *Journal of Research in Reading*. September 1981, *4*, 123-135.

Examines the association of restless and antisocial behavior with reading difficulty. From an initial sample of 141 poor reading boys of junior school age, 82 were selected for this study on the basis of: all being from English speaking homes, none having a history of absenteeism, bad health, poor hearing, uncorrected visual deficits or severe emotional problems; all having an IQ on the *English Picture Vocabulary Test* of at least 85; and all reading at least two grades below grade level on the *Schonell Test of Reading Ability*. Another group of 82 boys was selected as the comparison group. They were of similar ages and IQ as the poor readers, but were average or better readers. The average age of both groups was approximately 113 months and the average IQ of both groups was about 101. Each poor reader was administered a battery of perceptual and motor tests, including: the *Visual Spatial Ability Test*, a word recognition test, the *Wepman Auditory Discrimination Test;* the WISC Digit Span Subtest, a test of auditory-visual integration, the *Human Figure Drawing Test*, Harris' laterality tests, three subtests of the Stott test of *Motor Impairment* and the *Gibson Spiral Maze Test*. Behaviors were assessed with the assistance of parents and teachers who completed the *Rutter Child Scale* questionnaire. On the basis of perceptual/motor test battery, the 82 poor readers were divided into three subgroups: severe, moderate, or mild perceptual/motor impairment. Of the normal readers, 13% were classified as maladjusted and about half of these as antisocial; 32% of the poor readers were classified maladjusted and, again, about half of these as antisocial. There was a greater proportion of the severely impaired perceptual/motor skills subgroup classified as maladjusted than in the other two subgroups. The findings indicated that the poor readers demonstrated restless, hyperactive behavior at an early age, but that antisocial behavior did not result until the child was experiencing difficulty in school.

Derevensky, Jeffrey L.; Hart, Sybil; & Farrell, Mona. An examination of achievement-related behavior of high- and low-achieving inner-city pupils. *Psychology in the Schools*, July 1983, *20*, 328-336.

Examines differences in overt classroom behaviors exhibited by high- and low-achieving inner-city school children in grades 1-6. Based upon performance on the reading and mathematics subtests of the *Stanford Achievement Test*, five high achievers and five low achievers were identified at each grade level at each of two Montreal inner-city schools. Pupils were observed over a minimum of four separate reading and arithmetic instructional sessions over four separate days and behaviors rated on a seven-category scale. Observations occurred between February and June. High achievers spent a greater proportion of time academically engaged in activities felt to be conducive to acquiring knowledge. They were engaged in on-task behavior 85% of the time allocated to reading and math; low achievers were on-task 75% of the time. High achievers were engaged in appropriate tasks; low achievers in inappropriate tasks. No significant developmental trends were noted.

Ruddell, Robert B. Literacy achievement profiles and literacy use – High and low achievers. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 292-300.

Examines the relationship between literacy achievement performance and literacy use of high and low achieving students in grades 8, 9, and 10. Subjects were administered the *Comprehensive Test of Basic Skills*, and tests of written language and spelling achievement used in a previous research project. Children also completed a literacy questionnaire from this project, which was designed to provide data on in-school and out-of-school literacy use. Results are extensively reported. Among the findings was that the achievement profiles for high achievers differ from low achievers in reading, spelling, and writing expression; that the literacy use of high and low achievers differs substantially for both in-school and out-of-school activities; that the self-perceived literacy needs of both high and low achievers mirror academic performance; and that, although high and low achievers perceived teachers who had influenced their academic and personal development in a similar way, the former group identified almost twice as many significant influence teachers.

Stanley, Gordon; Smith, Glen A; & Howell, Edwina. Eye-movements in dyslexic children: Comments on Pavlidis' reply. *British Journal of Psychology*, May 1983, *74*, 195-197.

Reacts to critique of an earlier report investigating eye movements in dyslexic children. In particular, attention is paid to differences in experimental procedures, subject selection, and data analysis between two studies cited.

Roberts, Tim. Factors of intelligence in the reading comprehension of learning disordered/reading disordered youngsters. *Reading Improvement*, Summer 1983, *20*, 91-95.

Computes the interrelationships between various intelligence test scores on a reading test for 41 learning disabled children in grades 3, 4, and 5. Administered were the WISC-R and the *Test of Reading Comprehension* (TORC). The Reading Comprehension Quotient (RCQ) of the TORC was computed using the General Vocabulary, Syntactic Similarities, and Paragraph Reading subtest scores. Pearson product correlation coefficients were run among the WISC-R Verbal IQ, Performance IQ, Full Scale IQ, and the RCQ of the TORC as well as for the WISC-R subtests and the RCQ. A principal component factor solution and correction for small sample size were also performed. Correlation coefficients were then computed between the weighted transformed factor scores and the RCQ. The RCQ correlated .52 with Verbal IQ, .38 with Performance IQ, and .50 with Full Scale IQ. Coefficients of the RCQ with the Information, Similarities, Arithmetic, and Picture Arrangement subtests, respectively, were .57, .42, .38, and .46. Only these four subtests were significantly correlated with the RCQ. A general intelligence factor was found to be the only one which was significantly correlated with the RCQ.

Pavlidis, George Th. Erratic sequential eye-movements in dyslexics: Comments and reply to Stanley et al. *British Journal of Psychology*, May 1983, *74*, 189-193.

Reacts to a previously published study of eye movements in dyslexics and comments that the comparisons made with this author's previous work are inappropriate because of critical differences between the two. These differences are discussed under the headings of: 1) differences in the temporo-spatial parameters of the light-emitting diodes (LEDs), 2) differences in experimental procedure, 3) differences in subject selection criteria, and 4) differences in data analysis. It is noted that the author's findings are in agreement with existing literature and are replicable whereas those of the study being critiqued are not.

JANSEN, MOGENS. Relations between the qualifications of different groups of readers and different aspects of text. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 205-218.

Examines groups of readers in Danish schools in relation to the books they read and their method of reading. Results from a series of projects in which experienced classroom teachers acted as observers in grades one to seven, interviews were conducted and educational materials analyzed, indicated that at different grade levels there were differences as to which books were accepted, which books were read, and how the books were read. Four groups of readers are noted: 1) rebus-readers, whose reading was often oral and superficial, 2) content readers, who could master the content of what was read, 3) transition-readers, who were between the first two groups, and 4) retarded-readers, who had most of the characteristics of the first group. A developmental trend is noted and related to previous testing of large groups of students. Statistics are presented which indicate how children's and adult's use of libraries developed between 1959 and 1977, and an analysis is made of the type of books most frequently borrowed by children in terms of the individual's personal interest in the contents, the linguistic appearance of the text, and the immediate visual appearance of the text.

WHITEHOUSE, CATHERINE C. Analysis of WISC-R coding performance of normal and dyslexic readers. *Perceptual and Motor Skills*, December 1983, *57*, 951-960.

Compares the *WISC-R* Coding scores for 25 dyslexic and 25 normal subjects in grades 3 through 9. In addition, subjects were given two experimental memory tasks involving recall and recognition of the number/symbol associations from the Coding subtest, a measure of writing speed, and a measure of copying speed. Results indicated that dyslexic subjects performed significantly poorer on the Coding subtest, writing speed, and copying speed. There was no significant difference between the two groups on the memory tasks. An analysis of covariance revealed that slower writing speed may be the primary cause of lower copying and coding performance among dyslexics.

PONTIUS, ANNELIESE A. Global spatial relations in face representations shown in "ecological dyslexia" of Australian Aboriginals and in "Western" dyslexics. *Perceptual and Motor Skills*, December 1982, *55*, 1191-1200.

Administers the *Draw-A-Person* test, requesting a frontal view, to two culturally diverse populations, 269 Australian Aboriginal school children and 297 Western European school children, both of whom exhibited dyslexia or dyslexia-like reading and writing disabilities. The author hypothesizes that similar proportions of children would tend to draw a specific misrepresentation of the human face termed "neolithic face." This misrepresentation occurred in 35.4% of the dyslexic children and in 39.3% of Aboriginals. In contrast, 8% and 4%, respectively, of Western European and Australian European normal reading children showed such facial misrepresentations. The author writes that her findings suggest a subgroup of dyslexia who show subtle spatial-relational dysfunction.

PONTIUS, ANNELIESE A. Links between literacy skills and accurate spatial relations in representations of the face: Comparison of preschoolers, school children, dyslexics, and mentally retarded. *Perceptual and Motor Skills*, October 1983, *57*, 659-666.

Probes the existence of a link between literacy skills and accurate pictorial representation of the spatial relations of the human face. Drawings and sculptures from 608 normal American and European children, ages 6 to 16, were measured. Additionally, the following groups of European kindergarten and school children were given the *Draw-A-Person-With-The-Face-In-Frontal-View Test:* a) 366 normal kindergarten and school children, ages 4 to 10; b) 236 mildly mentally handicapped children, ages 8 to 17; and c) dyslexic children, ages 8 to

16. The misrepresentation of the face was about 31% in younger normal children, ages 3 to 6, and between 6% and 10% in groups of older children who had received literacy instruction. The mildly retarded and dyslexic groups showed only a nonsignificant difference between percentages of misrepresentations of the face before and after instruction in reading and writing. In dyslexics, the percentage of misrepresentation was 39.4%; in mildly retarded, 33%.

LUND, ARNOLD M.; HALL, JAMES W.; WILSON, KIM P.; & HUMPHREYS, MICHAEL S. Frequency judgment accuracy as a function of age and school achievement (learning disabled versus non-learning disabled) patterns. *Journal of Experimental Child Psychology*, April 1983, *35*, 236-247.

Reports two experiments which examine the developmental differences in frequency judgment accuracy and its prevalance in low-achieving pupils. In the first experiment, six groups of pupils (total n = 146) were formed: 1) 32 normal achievers from grades 2 and 3; 2) 28 learning disabled (LD) pupils from grades 2 and 3; 3) 27 low reading achievers from grades 2 and 3; 4) 12 low math achievers from grades 2 and 3; 5) 21 normal achievers from grade 5; and 6) 32 normal achievers from kindergarten. During the training phase, each subject was shown a series of pictures. In the test phase, pupils were shown pairs of pictures and a relative frequency judgment was required for each pair (one versus two, two versus three, and one versus three). Semantic categories and color were also manipulated. Results showed a significant difference among age groups, suggesting a developmental trend. No significant differences among achievement groups were found. The second experiment was a modified replication of the first. Developmental comparisons were limited to kindergarten and grade 3 and the 4 achievement groups were also limited to grade 3. Procedures and results were similar to those of the first experiment. Accuracy of relative frequency judgments improved from ages 5 to 8. At age 8, frequency judgment accuracy was not related to school achievement.

HESS, ANDREW M. An analysis of the cognitive processes underlying problems in reading comprehension. *Journal of Reading Behavior*, 1982, *14*(3), 313-333.

Investigates differences in memory and cognitive processing tasks of 83 fourth- and sixth-grade good and poor comprehenders, as identified by the *New Developmental Reading Test*. Three research tasks were administered: 1) a sample and five short stories, followed by oral recalls and yes/ no recognition questions related to explicit or implicit information for each story; 2) a practice sentence and a set of eight cued recall sentences where the dependent measure was the mean reaction/retrieval time for sentences correctly recalled that contained explicitly stated instruments; and 3) a rapid decoding of the set of 10 common words, to determine mean latency and the variance of latencies for test words correctly identified. Significant differences were found for comprehension group on total time for reading, on word recognition errors across stories, on correct explicit information, and on false recognitions of implicit information. There were also differences on contextual inferences and lexical inferences. On free recall, good comprehenders recalled significantly larger proportions of idea units, with differential recall across the four categories of "importance" established. Differences were found for acceptable and unacceptable thematic intrusion into the free recalls. Significant differences were also found for comprehension group on latencies of retrieval and speed of processing.

GAMBRELL, LINDA B., & HEATHINGTON, BETTY S. Adult disabled readers' metacognitive awareness about reading tasks and strategies. *Journal of Reading Behavior*, Fall 1981, *13*, 215-222.

Assesses adult good and poor readers' metacognitive awareness of task and strategy variables that influence reading. Subjects were 28 adult poor readers enrolled in a Right to Read program and 28 college juniors. There were 14 men and 14 women in each group. A structured interview was designed to elicit respondents' knowledge of the reading task and certain reading strategies. Poor readers demonstrated significantly less awareness of the structure of paragraphs and stories. Poor readers also perceived reading as a decoding process rather than a comprehension task.

Swanson H.L. Relations among metamemory, rehearsal activity and word recall of learning disabled and non-disabled readers. *British Journal of Educational Psychology*, June 1983, *53*, 186-194.

Investigates differences between learning disabled (LD) and nondisabled readers' metamemory. Subjects were 24 LD and 24 nondisabled readers separated into two age groups, 8 years and 10 years of age. Three lists of seven unrelated high frequency words were presented for recall at three different levels of rehearsal activity: spontaneous, one-item, multi-item. Older subjects recalled more words than younger; nondisableds, more than LDs. Children were asked to estimate their word recall ability prior to recall, and retrieval knowledge was assessed after free recall. The two groups were comparable in their initial estimates of recall. Skill of memory appraisal was unrelated to LDs' recall accuracy. LD pupils were classified as deficient in strategic knowledge, but no differences in rehearsal activity between the two reading groups occurred. The author attributed recall differences to semantic encoding difficulties rather than to production deficiencies in rehearsal activity or in metamemory.

Tant, Judy L., & Douglas, Virginia I. Problem solving in hyperactive, normal, and reading-disabled boys. *Journal of Abnormal Child Psychology*, September 1982, *10*, 285-306.

Compares the problem-solving ability of hyperactive, normal, and nonhyperactive reading-disabled boys matched on age and verbal IQ. A matrix solution task was used to assess problem-solving. Subjects were 97 boys, ages 7 to 12 years, selected from middle-class school districts in suburban Montreal. A three-way factorial design was used. Three diagnostic groups (hyperactive, normal, and reading-disabled) were crossed with two age levels (younger or older than 9.5 years), and repeated measures on three matrix types. Subjects' problem-solving was judged on the basis of three question-asking features: 1) bits of information; 2) types of questions asked; and 3) strategy verbalization (either some strategy or no strategy). Analysis of variance found significant differences among groups, with hyperactive children scoring lower on most dependent variables, and significant differences among age categories, with older pupils outscoring their younger counterparts. No significant differences were found for matrix type.

Wong, Bernice Y.L.; Wong, Roderick; & LeMare, Lucy. The effects of knowledge of criterion task on comprehension and recall in normally achieving and learning disabled children. *Journal of Educational Research*, November/December 1982, *76*, 119-126.

Studies the effect of clear instruction concerning task demands on comprehension and recall of learning disabled (LD) and normal achieving children in grades 5, 6, and 7. In the first of two experiments, five children from each group and grade level were randomly selected and divided into treatment and control conditions. Treatment condition subjects received explicit knowledge of the criterion task; controls did not. Four passages were read. The comprehension criterion task consisted of 10 questions and the recall test consisted of free recall. In the second experiment, 40 normal achieving and 40 LD pupils were randomly drawn from grades 5, 6, and 7 in two schools. In this experiment, only the recall condition was assessed, but the treatment group was given more explicit directions about what to recall than in Experiment 1. Also only two passages were given. LD children had lower performance scores than did normally achieving children, under the same conditions. Results from both experiments indicated that clear instructions concerning task demands facilitated the performance of both groups.

Di Lollo, Vincent; Hanson, Dawn; & McIntyre, John S. Initial stages of visual information processing in dyslexia. *Journal of Experimental Psychology: Human Perception and Performance*, December 1983, *9*, 923-935.

Employs four experimental tasks in comparing performance of dyslexic and normal children in the initial stages of visual information processing. Subjects were 10 dyslexic boys, aged 8 to 14-2, and 10 normal-reading controls matched on age, sex, and IQ. Two tasks explored performance under visual backword-masking conditions, and the other two were temporal-integration tasks. Dyslexics showed slower rates of visual information processing on backword-masking tasks than did normals. The temporal-integration tasks yielded evidence of longer duration of visible persistence in dyslexics than in normals. Evidence also suggested that the severity of the perceptual deficit in dyslexics diminished with age.

Ackerman, Peggy T.; & Dykman, Roscoe A. Automatic and effortful information-processing deficits in children with learning and attention disorders. *Topics in Learning and Learning Disabilities*, July 1982, *2*, 12-22.

Contrasts learning- and attention-disordered children using a high-low imagery paradigm. The 46 children represented four groups: Group 1 – 14 children classified as normal readers but hyperactive; Group 2 – 11 children classified as normally active but reading disabled; Group 3 – 10 children classified as both reading disabled and hyperactive; Group 4 – 11 children diagnosed as having attention deficit disorders but who were neither hyperactive nor reading disabled. Children ranged in age between 7 and 10 years old. They were tested for immediate and delayed recall of six high imagery (HI) and six low imagery (LI) words. Delayed recall followed initial learning by two hours. All four groups learned HI words better than LI words. The hyperactive and reading disabled children learned less efficiently than did the others, especially on the LI words. All groups showed equal decay in delayed recall, with LI words showing a proportionately greater delay than HI words. The boys in the sample participated in a double-blind crossover study comparing the effects of a placebo and methylphenidate. Performance was better under the drug than under the placebo condition over a three-week period in which they relearned the 12 words at pretreatment and at two different times. Boys given the drug continued to improve during the later trials and recalled more words after the two-hour delay. Children in this study were also tested for naming speed to assess the relationship of automatic and effortful processing. Reading disabled children tended to name more slowly, scan more slowly, and be less appreciative of rhyme than normal achievers.

Rudel, Rita G. Residual effects of childhood reading disabilities. *Bulletin of the Orton Society*, 1981, *31*, 89-102.

Reports and discusses the current intellectual and reading abilities and educational histories of 8 adults (ages 22-29) who reported at least one extended period of special reading instruction while in elementary school. Four subjects were medical students, one a geophysics Ph.D. candidate, one an economist, one a secretary, and one as an internal control analyst. All subjects scored at a 12+ grade level on the *Gray Oral Reading Test*, but only one of them evidenced adequate comprehension. Subjects' scores on the Iowa Silent Reading Test averaged from the 70 to 99 percentile. The range of WAIS Full Scale scores of the eight was 109 to 133. Variability between Verbal and Performance Scales was minimal. Subjects reported the following as some of the types of tasks with which they had difficulty: reading and analyzing work data, writing reports, taking examinations and reversing some numbers and letters. Anecdotal remarks and test results administered to varying numbers of subjects are reported.

DANEMAN, MERDYTH. Why some people are better readers than others: A process and storage account. In Robert J. Sternberg (Ed.) *Advances in the Psychology of Human Intelligence*. Vol. 2. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1984, 367-384.

Reviews research in differences in short-term memory capacity, and differences in the processing of food and poor readers. It is argued that a strong relationship exists between processing efficiency in working memory and the ability to integrate text. Further it is suggested that different kinds of text are easier for different readers. A theory of reading is constructed to account for these results and related to research on reading and listening, and on developmental differences in reading.

PATTERSON, KARALYN E. The relation between reading and phonological coding: Further neuropsychological observations. In Andrew W. Ellis (Ed.) *Normality and Pathology in Cognitive Functions*. London: Academic Press, 1982, 77-111.

Describes a case of phonological dyslexia in order to support the thesis that reading can be accomplished without assembled phonology. The subject suffered a coronary thrombosis followed several weeks later by cerebral embolism secondary to myocardial infarct. He was tested eight times over a two-year period to assess reading and writing, his major difficulties. On the *Schonell Graded Word Reading Test*, he read 83/100 words correctly, and some of his misreadings were inflectional or derivational errors indicating knowledge of the word. On the Nelson *Adult Reading Test* of difficult irregular words, he read 31/50 correctly, yielding an IQ estimate of 112. Ninety norms, all of which had been read correctly when presented in normal lower-case print were divided into three sets and presented. One set was presented tachistoscopically at 200 ms per word and he correctly read 29/30; one set was presented in mixed case and he read 28/30 correctly; the third was given with asterisks between the letters and again he read 28/30 correctly. His ability to write to dictation was more impaired than his reading as was his spelling. In reading, the patient was impaired on any task requiring him to assemble a phonological code for an unfamiliar word or letter string. He showed poor performance on all tests requiring assembled phonology for printed letter strings, and he failed to show the normal effect of phonological coding on nonwords in lexical decision. He was impaired on a [illegible] of auditory-visual matching of phonologically distinct words. In comprehension and oral reading of individual words he was normal except with respect to function words and derivational or inflectional morphemes. The author argues that recognition of the printed word does not require and typically does not involve a phonological code assembled from the graphemic information.

SWANSON, H. LEE. Effects of subvocal suppression on learning disabled readers' comprehension. *Learning Disability Quarterly*, Spring 1983, 6, 207-216.

Seeks to establish the role of subvocalization in differentiating learning disabled (LD) and nondisabled readers' comprehension performance. Subjects were 12 LD and 12 nondisabled readers matched on CA and IQ. Mean CA was about 11. Children were presented eight short stories, half in a reading condition and half in a listening condition. Within each condition, two stories were presented under counting task conditions. Sixteen comprehension questions of four types followed each story: noun meaning change, verb meaning change, concepts within sentences, and concepts across sentences. Reading comprehension was not as accurate for LDs as for nondisabled readers when required to combine concepts and integrate ideas. Both groups were comparable in comprehension of noun and verb lexical sentences when subvocalizing. Subvocalization appeared necessary for both groups' comprehension of individual words. Suppression of subvocalization did not interfere with the integration of ideas.

JORM, ANTHONY F. Determinants of individual differences in reading achievement. *Australian Journal of Psychology*, August 1983, *35*, 163-174.

Reviews selected research in two areas concerned with determinant of individual differences in reading: 1) cognitive deficits and reading retardation, and 2) social factors and reading achievement. A critique of the theory that a short-term memory deficit is associated with reading retardation is presented, and a revision of that theory is outlined placing emphasis on problems in storage and retrieval of phonological information from long-term memory. Preliminary data are presented based from a longitudinal study examining social factors affecting reading achievement. The study is being conducted with over 500 children from one region in Australia. Early results suggest that how well a child learns to read in the first year of school is best predicted by the mean *Phoneme Segmentation* test score of his peers at school.

BRIDGE, CONNIE A., & WINOGRAD, PETER N. Readers' awareness of cohesive relationships during cloze comprehension. *Journal of Reading Behavior*, 1982, *14*(3), 299-312.

Investigates good and poor readers' awareness of cohesive relationships and their effects on cloze performance. Fifteen cloze deletions were systematically made in an expository passage written at a low seventh-grade level. Five deletions were made for each of three cohesiveness ties (conjunctive ties, referential ties, and lexically related ties) based on Halliday and Hasan's work. In addition, a 15-item multiple choice test was constructed with each item corresponding to the information involved in a deletion. A demonstration audio tape modeling the introspective, think-aloud process to be used by subjects was also prepared. Subjects consisted of twenty suburban ninth graders classified as good or poor readers based upon standardized test scores. Each subject was tested individually by completing the cloze task orally and verbally explaining the reasons for selecting responses, and then reading an intact version of the passage silently and answering the multiple choice items. Repeated measures of analysis of variance examined differences between good and poor readers and among types of cohesive elements. Findings indicated that good readers outperformed poor readers on all tasks, that some cohesive ties were more difficult than others, and that readers varied their use of intersentential and intrasentential cues depending upon the type of cohesive element involved.

HAHN, AMOS L. Monitoring of passage inconsistency: A test of the error detection paradigm. *Illinois Reading Council Journal*, Spring 1983, *11*(1), 17-21.

Explores 20 fifth and sixth grade good and poor comprehenders to determine if there were differences in the groups' abilities to detect inconsistent passage information and whether polysyllabic words or inconsistent information interfered more with understanding of the passage. Three passages used in an earlier study were presented in three formats: consistent information, inconsistent information, and polysyllabic modification. Subjects read one passage of each type. A material by reader repeated-measures ANOVA found no significant main effect differences. All three passages were rated easy to understand or "o.k." Qualitative analysis suggested that if a problem existed with the inconsistent passages, the problem was one of disinterest or dislike of topics. With their attention called to the inconsistency, 10 subjects asked to read first and last sentences again, were able to detect and discuss the inconsistent information.

REIS, RON, & SPEKMAN, NANCY J. The detection of reader-based versus text-based inconsistencies and the effects of direct training of comprehension monitoring among upper-grade poor comprehenders. *Journal of Reading Behavior*, 1983, *15*(2), 49-60.

Reports the results of two studies which examine the use of comprehension monitoring by middle-school pupils. The first study sought to determine whether poor readers have equal difficulty in detecting text-based and reader-based inconsistencies. Fifty-four sixth and seventh grade poor readers each read two passages. One passage contained three text-based inconsistencies while the other passage contained three reader-based inconsistencies. After each segment of the passage the reader was asked if something did not make sense and, if possible, to identify the inconsistency. An analysis of variance showed that subjects were able to identify a significantly greater number of reader-based inconsistencies. The second study assessed the effects of direct instruction in comprehension monitoring. Twenty-four subjects who scored lowest in study one were randomly assigned to either a treatment or control group. The treatment group received two training session (four passages) in detecting both text-based and reader-based inconsistencies. The control group received the same general instructions and testing that they had in the first study. An analysis of variance revealed significant differences, favoring the treatment group, on reader-based inconsistencies but no differences between groups on detecting text-based inconsistencies.

Taylor, Maravene Beth, & Williams, Joanna P. Comprehension of learning-disabled readers: Task and text variations. *Journal of Educational Psychology*, October 1983, *75*, 743-751.

Reports two studies which compare the ability of learning-disabled (LD) and normal readers to recognize and produce main idea statements and to detect deviant sentences in a passage. In study one, a set of four-sentence expository paragraphs were developed so that one-half contained a topic sentence followed by three detail sentences, while the remaining one-half contained four detail sentences without a topic sentence. Subjects were 24 LD children and 24 normal children, from grades four to six, matched on IQ and reading vocabulary. A significant main effect was found only for type of task, with scores for recognition higher than those for production. No significant differences were observed between normal and LD pupils. The second study employed a detection task in which pupils were shown paragraphs similar to those in study one but asked to identify a sentence that did not belong. A third treatment group, LD pupils in a listening-reading condition, was also added. The LD reading-with-listening group scored significantly higher than either the normal readers or the LD reading-only group. A significant main effect for type of deviation showed that unrelated deviant sentences were easier to detect than related deviant sentences. A significant main effect for position of deviant sentence was also noted, with deviant sentences in earlier positions being more difficult to detect. No differences were observed for topic sentence condition.

Chabot, Robert J.; Petros, Thomas V.; & McCord, Gary. Developmental and reading ability differences in accessing information from semantic memory. *Journal of Experimental Child Psychology*, February 1983, *35*, 128-142.

Uses a categorical judgment task to investigate the relation between word recognition skills and reading achievement at several grade levels. The subjects in Experiment 1 were skilled and unskilled readers from grades 2, 4 and 6. Reading classification was determined by teacher judgment. The stimuli were tachistoscopically presented pairs of words that were examples of 10 semantic categories. Subjects made yes or no decisions about the word pairs using graphemic, lexical, or semantic information. Subjects in Experiment 2 were skilled and unskilled readers from grades 1, 3, and 5. Stimuli here were tachistoscopically presented pairs of pictures or words that were exemplars of 10 semantic categories. Speed and accuracy of the response were the dependent variables. All main effect differences in both experiments were significant. Moreover, nearly all interaction effects were significant: less skilled readers responded significantly slower or made more errors than the more skilled readers whether the stimuli were words or pictures or whether the decision required word ending, lexical access, or semantic memory. The results suggest that reading ability differences extend beyond word ending and lexical access difficulties.

DiBenedetto, Barbara; Richardson, Ellis; & Kochnower, Jeff. Vowel generalization in normal and learning disabled readers. *Journal of Educational Psychology*, August 1983, *75*, 576-582.

Designs a study comparing the vowel-sound associations of normal readers and learning disabled (LD) readers when reading words based on regular and irregular spelling patterns and nonsense words. Three groups of 20 children each served as subjects: LD group, a group matched for reading vocabulary (VM) with LDs, and a group matched for age (AM) with the LDs. The *Vowel Generalization Test* (VGT), the *Decoding Skills Test* (DST), and the *Peabody Picture Vocabulary Test* (PVVT) were administered to all children. The VGT was the dependent variable. The VM group was approximately two years younger than the other two groups and most were in grades two and three. LD and AM children were mostly from fourth and fifth grades. Results of analysis of variance procedures indicated that LD and AM groups differed on all three types of measures on the VGT. Comparisons between LD and VM groups revealed a tendency for the former group to apply vowel generalizations less frequently and ungeneralized vowel associations more frequently than the latter group.

Mitterer, John O. There are at least two kinds of poor readers: Whole-word poor readers and recoding poor readers. *Canadian Journal of Psychology*, September 1982, *36*, 445-461.

Presents empirical studies with 13 good and 27 poor third grade readers who were asked to read and spell sets of 32 orthographically regular and 32 irregular words, and to read a set of 32 nonwords. Pearson product moment correlation coefficients were computed on 16 scoring measures, with good and poor reader data analyzed separately. The poor reader intercorrelation matrix revealed close inter-relation. Poor readers turned out to be very non-homogeneous with respect to skill preference. Good readers' intercorrelations were not as high. Performance measures were not subtle enough to distinguish skill preferences of the good readers. Experiments II and III were undertaken to validate the distinction between the whole-word and recoding skill, with subjects representing the 10 most extreme whole-word and recoding poor readers. In Experiment II, subjects were asked to distinguish between words and nonwords in concurrent vocalization and control conditions. Recoding poor readers, under these circumstances, did rely more heavily on recoding than did the whole-word poor readers. In Experiment III, words were printed in alternating upper-case and lower-case letters, and the time taken to read the list was recorded and contrasted to the time taken for reading a lower-case list. Whole-word readers suffered more interference through the letter manipulation than the recoders, consistent with the notion that whole-word poor readers rely more heavily on overall visual properties.

Blau, Eileen K. The effect of syntax on readability for ESL students in Puerto Rico. *TESOL Quarterly*, December 1982, *16*, 517-527.

Seeks to determine the effect of manipulating the degree of sentence combining on reading comprehension for two groups of ESL students. The first step in the study was the development of the *Syntactically Different Comprehension Test* (SDCT). Eighteen short paragraphs based on passages from a reading kit were written in three versions. Only sentence structure was varied, with content and vocabulary being held constant. Version 1 consisted of short, simple sentences; Version 2 of complex sentences with clues to underlying relationships left intact; and Version 3 of complex sentences without clues. The readability levels for Version 1, where that was determinable, ranged from 1st to 4th grade. For Version 2 they ranged, where determinable, from 5th to 16th grade. For Version 3 they ranged, where determinable, from 6th to 17th grade. The instrument was administered to 85 undergraduate students and to 111 eighth grade pupils at a private school (all were native speakers of Spanish and literate in their mother tongue). Contrary to what readability formulas may imply, Version 2 rather than Version 1 yielded the highest comprehension scores with the college level subjects; the same instrument was administered to the eighth graders to determine if the formulas were a more accurate indicator for younger students. Results revealed that they were not.

Brozo, William G.; Schmelzer, Ronald V.; & Thurber, Robert G. Differential study skills of successful and failing university students. *Journal of Learning Skills*, Fall 1982, *2*(1), 29-35.

Determines the study habits of failing and successful students. Data included 93 returns from successful students and 56 from those failing (success was defined as a GPA of 3.5 on a 4.0 scale, with failure established as a GPA of below 2.0). Employed was the *Minnesota Study Habits Blank* (MSHB), as well as demographic information including sex, class in school, credit enrolled in, and employment status. The data suggested that successful and failing students can be differentiated by their use of study skills. For all eight problem areas identified by the MSHB, successful students reported superior study habits.

Alvermann, Donna E. Exposure to complex syntactic materials and stages of linguistic development in reading disabled children. *Journal of Research and Development in Education*, Summer 1983, *16*(4), 26-31.

Investigates the relationship between higher states of linguistic development and exposure to materials written at more complex syntactic levels. Subjects ($n = 60$) were disabled readers, aged between 6 and 10. Reading disability was defined as reading achievement, assessed by the *Iowa Test of Basic Skills*, two grade levels or more below reading expectancy, computed using scores from the WISC-R. Subjects were individually interviewed and their listening comprehension tested in terms of five complex syntactic structures: 'easy to see,' 'promise,' 'ask,' 'and,' and 'although.' Information concerning each child's reading background and current reading activity was also obtained in the interview, and from parents. Each book or magazine named by a child or parent was checked for syntactic complexity, using a formula from previous research. Age, IQ, reading achievement, and syntactic complexity level of material were analyzed for relationships with linguistic stage of development. Only syntactic complexity level of material correlated with linguistic stage ($p < .01$).

Kagan, Jerome. Retrieval difficulty in reading disability. *Topics in Learning & Learning Disabilities*, April 1983, *3*(1), 75-83.

Conducts a two-phase study exploring whether reading disabled children have difficulty processing or evaluating the validity of linguistically presented propositions. In Phase 1, 35 reading disabled boys and 35 normal reading boys, ages 8 to 12, were matched for age, ordinal position, and parental education and occupation. Both recall and recognition memory were assessed. Reading disabled boys recalled significantly fewer items in strings of words, had significantly poorer recognition for less familiar words presented in a story, and had longer latencies than controls in responding to *yes* and *no* sentences. Phase 2 of the study utilized 29 of the original Phase 1 subjects in each group. Reading disabled boys were significantly slower than controls for each of 12 decision time tasks employed but not for simple motor response time. Reading disabled subjects were slower whether the information was presented pictorially or linguistically, and also when the oral information was contained in one word or when it involved an entire sentence. Seven reading disabled boys consistently had very long response times. It was felt that these seven might not have been able to sustain the ability to evaluate information efficiently over the 8 to 10 minutes time required for each test.

Wheeler, Larry J., & McNutt, Gaye. The effect of syntax on low-achieving students' abilities to solve mathematical word problems. *The Journal of Special Education*, Fall 1983, *17*, 309-315.

Determines the influence of three levels of syntactic complexity on 30 eighth grade remedial mathematics students' abilities to solve word problems. All subjects had a minimum fourth grade achievement level in reading vocabulary and mathematical computation as determined by the *Comprehensive Test of Basic Skills*. Syntax tests from an earlier study were changed so that varying computation processes were distributed throughout the test and the problems were reorganized according to degree of difficulty of computation. Analysis of variance indicated a significant difference among the subjects' error scores on the three tests. Mean error scores on the easy and moderate syntax items were similar but there were differences between these two tests and the high syntax scores. Supplementary analyses indicated no significant differences between easy and moderate syntax items, significant differences between easy and hard items, and significant differences between moderate and high items.

JOHNSON, GWENDOLYN D., & LEFTON, LESTER A. Reading comprehension: Essential skills are not sufficient. In Dennis F. Fisher and Charles W. Peters (Eds.). *Comprehension and the Competent Reader: Inter-Specialty Perspectives.* New York: Praeger Publishers, 1981, 116-126.

Reviews research literature in order to identify those skills present in skilled readers that are potentially lacking in less skilled readers. Topics covered are decoding ability, word meaning knowledge, grammatical complexity, and text organization. Concludes that the most consistent finding is that skilled comprehenders use strategies best adapted to extracting meaning from text in the most economical fashion. Poor readers, however, are more stimulus bound and approach text in a word-by-word manner.

LYON, REID; WATSON, BILL; REITTA, SUSAN; PORCH, BRUCE; & RHODES, JOHN. Selected linguistic and perceptual abilities of empirically derived subgroups of learning disabled readers. *Journal of School Psychology,* Summer 1981, *19,* 152-166.

Identifies six subgroups of learning disabled children (LD) on the basis of scores on a battery of linguistic and perceptual tests, describes the differences among these six groups, and compares test performance of LD and normal reading students (NR). Subjects were 100 LD and 50 NR students between the ages 11-0 and 12-5. Average WISC-R full scale IQ was 106 for both groups. Average *Peabody Individual Achievement Test* (PIAT) age equivalent scores on the two reading subtests were about 8.5 for the LD group and 12.3 for the NR group. Test scores collected included: the *Wepman Auditory Discrimination Test,* the Short Form of the Token Test, the Naming Test, the Sound Blending Subtest of the ITPA, the Auditory Attention Span for Related Syllables of the *Detroit Tests of Learning Aptitude,* the *Raven's Coloured Progressive Mazes,* the *Developmental Test of Visual Motor Integration* (VMI) and the *Graham-Kendall Memory-for-Designs Test.* Reading and spelling achievement were assessed with the PIAT and the *Porch Index of Communicative Ability in Children* (PICAC). Also, for LD subjects only, certain family, developmental and school background information were collected. Multivariate Analysis of Variance and discriminant analysis indicated that all LD subgroups differed significantly from each other and from the NR group. There were also significant differences among the six subgroups in reading and spelling. There were no differences in the six subgroups in family, developmental, or school histories. The subgroups ranged in size from 10 to 32. The largest group was described as having impairments in visuoperceptive areas and demonstrated normal scores on all language and perceptual tests; they also had the highest reading and spelling scores. The discriminant function analysis yielded two major functions that differentiated the six subgroups; one was characterized as language-motor interpretation, the second, as visual-motor integration. The univariate analysis indicated that the two tests most responsible for group differences were the Token Test and the VMI. The authors concluded by comparing their subgroups with previous research.

LIBERMAN, ISABELLE Y., & MANN, VIRGINIA. Should reading instruction and remediation vary with the sex of the child? In Alice Ansara, Norman Geschwind, Albert Galaburda, Marilyn Albert, & Nanette Gartrell (Eds.) *Sex Differences in Dyslexia.* Towson, Md.: The Orton Dyslexia Society, 1981, 151-167.

Reviews research related to selected causes of difficulty in learning to read, with emphasis on two areas: 1) linguistic awareness and lexical access, and 2) phonetic coding in short-term memory. Additionally, a section of the paper focuses on sex differences and linguistic strategies. Suggestions for remediation are included.

Moore, Lynn J.; & Litcher, John H. A comparison of children's ability to define and apply phonics terms. *Reading Horizons*, Fall 1983, *24*, 27-32.

Compares high and low level fourth graders on their ability to define and apply phonics terms. Subjects were 40 pupils attending a Southeastern school, 20 scoring above the 4.5 level on the third grade *California Achievement Test*, and 20 scoring below 3.5. Subjects took Tovey's *Phonics Definition Instrument* to determine whether they could define phonic terms and Tovey's *Phonics Application Instrument* to see if they could apply phonics skills to nonsense words. Three items were added to the original application instrument. Children applied more phonics terms than they defined ($p < .001$). Higher level readers were more successful in defining terms ($p < .001$) than were low level readers. Higher level readers also applied phonics skills more proficiently than low level readers ($p < .01$). A correlation coefficient of .44 was obtained between scores of all subjects on the instruments measuring phonics definitions and phonics applications ($p < .01$).

Hatfield, Frances M., & Patterson, Karalyn E. Phonological spelling. *Quarterly Journal of Experimental Psychology*, August 1983, *35A*, 451-468.

Investigates the spelling errors of a dyslexic subject, whose reading performance was characterized as a mixture of word-form dyslexia and surface dyslexia. The subject was tested on regular and exception words, and a series of homophones. Results are indicative of phonological spelling where there is a high occurrence of phonologically plausible errors. A contrast is drawn between such errors and oral reading errors in surface dyslexia, and it is concluded that there is not a precise parallel.

Quin, Vera, & MacAuslan, Alan. *Reading and Spelling Difficulties: A Medical Approach*. London: Hodder & Stoughton, 1981.

Outlines some causes and correlates of reading impairment as observed in the Learning Difficulties Clinic of a London hospital. The clinic staff included a eurythmy therapist, an occupational therapist, a speech therapist, a teacher, a medical doctor, and a clinical psychologist. Forty case studies drawn from children and adolescents who visited the clinic for diagnosis are used to illustrate the approach adopted. Among the tests commonly used were the *WISC*, the *Neale Analysis of Reading Ability*, and the *GAP/GAPADOL Reading Comprehension Tests*. Results of the recommended remediation are reported for some cases.

Jennings, Robert, E.; McNinch, George; & Arnold, Elizabeth. Word reading efficiency of disabled readers under conditions of semantic loading with implications for reading comprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 93-95.

Investigates the effects of semantic loading on the word pronunciation ability of poor readers. Subjects ($n = 23$) were fifth graders with a mean total grade equivalence score on the *Comprehensive Test of Basic Skills* of 4.3 and a mean score of 87 on the *Peabody Picture Vocabulary Test*. Subjects were assigned to three groups on the basis of subtest scores: those whose vocabulary scores were greater than their comprehension scores, those whose scores on comprehension were superior to vocabulary, and those whose scores were equal. Subjects read two-word lists of 160 words which were divided into sets of four words which were either semantically related or semantically unrelated. Semantically related words were either lexical words (car, truck, wagon, cart) or structure words (by, into, around, upon). Words were chosen from the *Harrison-Jacobson Word List*, the *Spache Revised Word List*, and the *Dolch Basic Sight Vocabulary of 220 Words*. The time taken to read the lists was recorded along with pronunciation errors in each category. No group comparisons were significant and only two list comparisons. The categorized list was read with fewer total errors ($p = .00001$) than the randomized list. Structure words were read equally well in both lists.

Nelson, Hazel E. Analysis of spelling errors in normal and dyslexic children. In Uta Frith (Ed.). *Cognitive Processes in Spelling.* New York: Academic Press, 1980, 475-493.

Investigates the spelling errors of normal and dyslexic children. Thirty children diagnosed as developmentally dyslexic were matched with 30 normal children on the basis of spelling age as assessed by the *Word Equated Spelling Test.* The first 20 spelling errors of each child on the test were scored qualitatively in terms of an error in the order of letters, phonological accuracy and orthographic illegality. There was no difference between the groups in any of the categories. Results are interpreted as being problematic for several traditional theories of dyslexia.

Jorm, Anthony F., & Schoknect, Colin. Role of visual word recognition checks in children's spelling. *Australian Journal of Psychology,* December 1981, *33,* 393-403.

Conducts two experiments to test the idea that children use visual word-recognition knowledge to check for errors in spelling generated by phoneme-letter correspondence rules. Subjects in Experiment 1 were 48 grade 4 and 48 grade 6 children. Subjects spelled words ranging in frequency in one of three conditions: orally, written, or written with explicit instructions to check for errors. The dependent variable was the number of correctly spelled words. Grade 6 children performed better than grade 4 children, and high-frequency words were more accurately spelled than low-frequency words. There was no significant difference in number of correctly spelled words among the 3 modes of spelling. The subjects of Experiment 2 were 28 children in grade 4, 5, or 6. The words to be spelled were 50 words of a length of 7 or 8 letters. These 50 words were intermixed with 150 pseudowords of similar length. All subjects completed a word detection task in which they were to select the real words from the list of real and pseudo-words, and an oral identification task in which words were to be read aloud, and then an oral spelling task. The experimental group then spelled the same words in writing. Written spelling was significantly better than oral spelling, both for words the children could read and could not read. Spontaneous self corrections during spelling were uncommon and equally frequent for oral and written spelling.

Finucci, Joan M.; Isaacs, Sarah D.; Whitehouse, Catherine C.; & Childs, Barton. Empirical validation of reading and spelling quotients. *Developmental Medicine and Child Neurology,* December 1982, *24,* 733-744.

Proposes a method to provide a valid measure of specific reading disability by using an achievement quotient derived from oral reading and spelling tests. The quotient employed was the ratio of observed achievement age to expected achievement age. Two groups of subjects were involved: 1) a reading-disabled group of 41 boys and 5 girls who attended schools for children with specific reading disability; and 2) 127 boys and 114 girls in grades 3 to 12 from parochial and public schools. All children were administered the WISC or WAIS; the *Gray Oral Reading Test;* and the *Wide Range Achievement* (WRAT) Spelling subtest. A six-item questionnaire on school history and self-assessment was also given. Expected Achievement Age (EAA) was computed from the average of chronological age, mental age, and age for grade (average age of pupils at a child's grade placement). Observed achievement ages were computed from the Gray Oral and WRAT Spelling ages. In the non-disabled group, the average achievement quotient was distributed with the expected mean of 1.00, but in the disabled group all children had quotients of .90 or less. Quotients were significantly related to the number of unfavorable responses on the questionnaires. A zone of quotients from .81 to .90 was identified as a borderline region; above that, readers were designated as normal, below that, as disabled.

Reynolds, Cecil R. The fallacy of "two years below grade level for age" as a diagnostic criterion for reading disorders. *Journal of School Psychology*, Winter 1981, *19*, 350-358.

Argues that the use of grade equivalent scores contrasted to grade placement as a means of determining reading disability substantially overstates disabilities at upper grade levels while underestimating the level of difficulties at the lower grade levels. Supports the argument from several positions and presents an alternate statistical procedure for determining reading disability. Demonstrates the application of this procedure with an example case.

Koff, Elissa, & Riederer, Stephen A. Hemispheric specialization for syntactic form. *Brain and Language*, September 1981, *14*, 138-143.

Explores the capacity of the intact right hemisphere to process words varying in frequency and syntactic form (pure nouns, verb-derived nouns, category-ambiguous words and adjectives). The words were presented with a two-chanel tachistoscope to 29 female, right-handed college students. All words were presented in each visual field. Words presented in the right visual were identified significantly more accurately than words in the left visual field. The effects of syntactic class and frequency were not significant. Concludes that neither hemisphere gave preferential access to the syntactic forms tested.

Katz, Robert B.; Shankweiler, Donald; & Liberman, Isabelle Y. Memory for item order and phonetic recoding in the beginning reader. *Journal of Experimental Child Psychology*, December 1981, *32*, 474-484.

Tests the immediate memory for item order of good and poor readers. Stimuli were sets of five nonsense drawings (phonically scribbles) and sets of five line drawings of common objects (phonically recodable). Subjects were all second graders, 21 poor readers and 21 good readers. Reading level was determined by teacher rating and performance on the *Comprehensive Test of Basic Skills*. The two groups differed significantly on the word identification and word attack subtests of the *Woodcock Reading Mastery Tests*. Subjects viewed tachistoscopic presentations of either phonically unrecodable or phonically recodable stimuli and then rearranged a set of the same five stimulus cards into the same order as had been presented. Recodable stimuli were significantly easier than unrecodable, but there was a significant interaction between reading level and stimulus type. Good and poor readers did not differ significantly on unreadable items, but good readers scored significantly higher than poor readers on recodable stimuli.

Holmes, Betty C. The effect of prior knowledge on the question answering of good and poor readers. *Journal of Reading Behavior*, 1983, *15*(4), 1-18.

Determines whether poor readers are as adept at answering post-reading comprehension questions as good readers when their prior knowledge has been categorized as accurate, inaccurate, incomplete or missing. Subjects were 56 fifth grade pupils, having equivalent IQs, but varying in reading ability and general knowledge of the passage topics. Four questions were written for each paragraph: one-idea text explicit, one-idea paraphrase, two-idea text explicit, and text implicit. There was a significant interaction between reading ability and extent of general prior knowledge for topic. When readers had accurate answers stored in memory, there were no significant differences on comprehension type. When answers were stored inaccurately, scores were considerably lower. When prior knowledge was incomplete, good readers again scored higher than poor readers. Posttests were also higher for good readers when they lacked prior knowledge for the topics. In general, poor readers were not as adept as good readers in answering post-reading questions.

IV-15 Socio-cultural factors and reading

Marjoribanks, Kevin. Occupational situs, family learning environment and children's academic achievement. *The Alberta Journal of Educational Research*, June 1983, *29*, 110-122.

Examines the utility of adopting occupational situs categories (i.e., all jobs, occupations, and professions which share common functions, missions, or focus) for educational research by investigating relations between occupational status, family learning environments, and children's academic achievement for 900 Australian families divided into 10 occupational situses. Situs categories were: legal authority, finance and records, manufacturing, transportation, extraction, building and maintenance, commerce, aesthetics and entertainment, education and research, and health and welfare. A family learning environment schedule in an interview format gathered information on: achievement orientation, press for English, press for reading, press for independence, individualistic-collectivistic value orientations, and parents' educational-occupational aspirations for their children. Children were administered standardized tests devised by the Australian Council for Educational Research, as well. Using discriminant analysis, two functions were identified: an individualism dimension and press for reading, press for English, and achievement orientation. Differences in aspirations were noted among scores from different occupational situses. In multiple regression models, occupational situs was associated with modest percentages of the variance in the environmental interview scores. Parents from different occupational situs categories created different learning environments for their children. Regression surfaces were plotted to examine associations among situs, status, family environment, and children's achievement. Within each situs category, occupational status and family environment measures combined to produce modest relations with standardized test scores, but relationships were different for the various occupational situses.

Dolan, Lawrence. The prediction of reading achievement and self-esteem from an index of home educational environment: A study of urban elementary students. *Measurement and Evaluation in Guidance*, July 1983, *16*, 86-94.

Focuses on the degree that home educational environment predicts reading achievement and pupil self-esteem within an urban, low socioeconomic status level. Children and their parents from second, fourth, and sixth grades within an urban school were studied. The sizes of the student/parent units were 85, 83, and 85, respectively, for grades 2, 4, and 6. Of the sample, 56% were female, 44% male; 91% were black and 85% qualified under Title I as educationally disadvantaged. The *Home Educational Environment Index* (HEE) consisting of 39 questions in four categories was administered to all 253 parents individually and in their own dwellings. Pupil achievement was assessed by relative class standing for academic subjects and for achievement in reading on the *Stanford Achievement Tests* (SAT). There were three student self-esteem measures employed: 1) the *Brookover Self Concept of Ability Scale;* 2) an adaptation of the School Mathematic Study Group's measure of general self-esteem; and 3) to assess nonacademic self-esteem, the Piers-Harris "How I See Myself" questionnaire was administered. Additionally, teachers were asked to completed an index of pupils' positive affective resources (interpersonal relationships, self-esteem, competence, productivity, and responsibility). Pearson Product-Moment coefficients between SAT scores and HEE were .51, .59, and .63, respectively, for the three grade levels. HEE was a significant predictor of nonacademic self-esteem also, but the results for academic self-esteem were inconsistent.

Walberg, Herbert J., & Tsai, Shiow-ling. Reading achievement and attitude productivity among 17-year olds. *Journal of Reading Behavior*, 1983, *15*(3), 41-53.

Reports a secondary analysis of data from the 1970-80 National Assessment of Educational Progress. Achievement and questionnaire data from a national sample of 2,300 17-year olds were used. Dependent variables were reading achievement and four indices of reading attitude. Independent variables were frequency of spare time reading, amount of leisure reading, amount of television watched, hours of homework done the previous night, the extent of use of television, radio, newspapers, and magazines as news sources, and socioeconomic status. Pearson product-moment coefficients and regression analysis were used to examine relationships among variables. A considerable amount of the variance in achievement (51%) was accounted for by motivation, frequency of spare time reading, radio listening, socioeconomic status, home environment, the use of English at home, race, and public-school attendance.

SHARE, DAVID L.; JORM, ANTHONY F.; MACLEAN, ROD; MATTHEWS, RUSSELL; & WATERMAN, BOBBIE. Early reading achievement, oral language ability, and a child's home background. *Australian Psychologist*, March 1983, *18*, 75-87.

Examines the relationship between early reading achievement at school entry age and the educational/literary environment and socioeconomic status of the home in an Australian population of 543 children. Information regarding home educational processes was collected through an 11-item questionnaire. Socioeconomic status was based on the father's occupation. Five measures of early reading achievement were used: 1) letter names; 2) name writing; 3) name reading; 4) letter copying; and 5) recognition and discrimination of letters and numbers. Five measures of oral language were also used: 1) the *Northwestern Syntax Screening Test;* 2) the *Peabody Picture Vocabulary Test;* 3) sentence memory; 4) picture naming; and 5) color matching. Univariate correlation analysis yielded characteristics of homes where children have higher early reading achievement and higher language skills. Multiple regression analyses revealed that when home processes are partialled out, socioeconomic status does not contribute substantially to achievement, but when SES is partialled out, home processes still make a substantial contribution to achievement. Similar findings were made for oral language development.

LOPEZ, LINDA C., & HOLMES, WILLIAM M. Maternal involvement and academic success for kindergarten pupils. *Reading Improvement*, Winter 1983, *20*, 248-251.

Compares the impact of several maternal involvement behaviors with teachers' perceptions of the academic performance of 115 entering kindergarteners (54 males and 61 females). Interviews and questionnaires explored if the mothers helped their children with phonics and sight words and if they had followed through with such tasks as volunteering to assist in school and PTA activities, and watching and listening to special educational television and radio. Using the *Classroom Behavior Inventory* (CBI), teachers rated each pupil on language skills, number concepts, reading (or readiness), and health and personal care. Family-School Socialization Project data were used to get background information on the pupils and the mothers. Pearson-Product-Moment correlation coefficients were used to develop composite measures for the parental involvement items and to correlate composites with CBI grades. Overall, helping with sight words was the only maternal involvement variable correlated with any CBI grade, and it was negatively associated with the reading ability of the children. Maternal involvement did not correlate significantly with any CBI grades for the male subsample, but negatively correlated sight vocabulary with number grade and reading grade for females.

KAGAN, SPENCER, & ZAHN, G. LAWRENCE. Generalized maternal reinforcement and children's reading achievement, math achievement, and field independence. *Journal of Genetic Psychology*, September 1982, *141*, 93-104.

Tests 39 semirural, low income Anglo-American mothers and their 39 children, 15 second graders and 24 third graders, to determine the relation of maternal reinforcement variables to children's reading and math achievement and their field independence. Two conditions, a luck condition and a skill condition, were used to assess maternal reinforcement. A portable Man-in-the-Frame was used to determine field independence-dependence. Verbal and quantitative abilities were assessed by the *Comprehensive Tests of Basic Skills.* Maternal reward, punishment, and contingency were similar on both tasks, and were more related to verbal abilities than to quantitative abilities. Reading ability was associated with a rewarding, nonpunitive, noncontingent mother. Math ability was not related to maternal reward, but was related to a nonpunitive, noncontingent mother. Boys and girls were differentially influenced by maternal punitiveness and contingency. Punitive or contingent mothers seem to inhibit the cognitive development of boys.

DEFRIES, J.C., & BAKER, LAURA A. Parental contributions to longitudinal stability of cognitive measures in the Colorado Family Reading Study. *Child Development*, April 1983, *54*, 388-395.

Presents follow-up data on participants in the Colorado Family Reading Study. Data were collected five years after the original testing on 51 pairs of reading disabled and control subjects who had not yet reached 17 years of age. Pairs were matched for sex, age, and school district. Average age at the time of follow-up testing was 14.9 years. Tests administered at both initial and follow-up times included the WISC Coding, the *Colorado Perceptual Speed Test:* Rotatable Letters and Numbers (CPS), and the Reading Recognition, Reading Comprehension, and Spelling subtests of the *Peabody Individual Achievement Test.* Two composite scores, reading and coding/speed, were computed for each subject and covariance matrices constructed. Relative to reading, estimates suggested that parental influences contributed to longitudinal stability for reading-disabled subjects but not for controls. For coding and symbol processing speed, covariance structure was similar for the two family types.

MCMANUS, I.C., & MASCIE-TAYLOR, C.G.N. Bisocial correlates of cognitive abilities. *Journal of Biosocial Science*, July 1983, *15*, 289-306.

Evaluates the concurrent effects of selected social, personal, and family variables on reading, mathematics, verbal, and non-verbal test scores. Complete data were obtained from 7,172 children at age 11 who were tested in Britian as part of the National Child Development Study. The following variables were examined: social class of father, sex, birth order, mean parental age at time of birth, difference in age of the two parents, height at age 11, presence of acquired myopia, handedness, eye dominance, birth weight, maternal history of smoking during pregnancy, number of obstetric complications, and the ABO and rhesus blood groups of the mother. Reading test scores related to social class, birth order, parental age, height, and acquired myopia. Mathematics scores related to social class, parental age, height, birthweight, and maternal smoking. Verbal and non-verbal test scores related primarily to sex and region.

LIPSON, MARJORIE YOUMANS. The influence of religious affiliation on children's memory for text information. *Reading Research Quarterly*, Summer 1983, *18*, 448-457.

Investigates the text processing of 32 middle class fourth, fifth, and sixth grade pupils, 16 enrolled in a private Catholic school and 16 enrolled in a private Hebrew day school. Subjects read three expository passages: one culturally neutral, one designed to provide a culturally specific stimulus to the Jewish children, and one to trigger culturally specific schemata for Catholic children. Free recall and 10 probed recall questions were solicited. Data were analyzed using a repeated measures analysis of covariance, with the culturally neutral passage serving as the covariate. Both groups took less time to read the passages culturally familiar to them. Recalls were coded using propositional analysis and then scored as textually explicit, textually implicit, or error. No main effects were found for either group or passage. A main effect was found for type of response. Implicit and explicit responses were more common than were explicit. There were no main effects for passage or religion on text explicit recalls but a passage by religion interaction indicated pupils recalled more text explicit and implicit information, and were more accurate on the culturally familiar passage. Subjects were also more successful at responding to probed recall questions on the culturally familiar passage.

Carswell, Lorraine, & White, William F. Problems of reporting socioeconomic bias among reading scores and standardized reading tests. *Perceptual and Motor Skills*, February 1984, *58*, 181-182.

Compares the scores of two groups of randomly sampled children on the *California Achievement Test* (CAT)-Reading Comprehension and Vocabulary and on the *Degree of Reading Power*. The groups consisted of one group of 60 eighth graders on federal lunch (Group A) and 60 eighth graders not participating in federal assistance programs (Group B). Group A children had lower mean scores on the measures. Caution is urged in reporting test scores between and among school programs.

McClure, Erica; Mason, Jana; & Williams, Janet. Sociocultural variables in children's sequencing of stories. *Discourse Processes*, April-June 1983, *6*, 131-143.

Explores whether sociocultural differences in story schemata affect the reading comprehension of Black, Anglo, and Hispanic students given a story unscrambling task in three versions: setting, question, and conclusion. For each of the 18 story versions, sentence length and semantic content were approximately equivalent, with sentences scrambled in a different random order for each of the 18 forms. Subjects were 455 third, sixth, and ninth grades from working class and middle class families, attending inner-city parochial schools. Each subject read six stories and placed the scrambled sentences in sequential order. Two sets of regression analyses, between subjects for reading achievement, ethnicity, social class, grade, and booklet, and within subjects for story version and the repeated Latin square, were repeated for each of four dependent measures. Scores were also compared to suburban Anglo children. Task effects were explained principally by grade for all four measures ($p < .001$). Reading achievement also contributes heavily ($p < .001$). Better readers at each grade level obtained higher scores. Sociocultural variables make small contributions to explaining variability. When comparing the results of this study to a predominantly Anglo suburban group, differences between the two groups were not significant. Ethnicity was a factor, but socioeconomic status was not. Certain story structures may not be as familiar to some ethnic groups as others.

Swanson, Beverly. Linguistic awareness and reading attitude among minority students. *Reading Improvement*, Fall 1983, *20*, 236-238.

Investigates socioeonomic influence on concepts about reading and on reading attitude of Southern black beginning readers. Subjects were two groups of 20 black first graders, half scoring below and half scoring above the median on the *Hollingshead Two Factor Social Index*. The scale gives indices of head of household's educational and occupational level. The three subtests of the *Linguistic Awareness in Reading Readiness test* (LARRT) were used to assess pupils' recognition of reading activities, purpose for reading, and terms used on reading instruction. The *Heathington Attitude Scale* was used as a measure of attitude toward reading. Approximately 24% of the variation in LARRT scores was accounted for by socioeconomic status. Children from higher socioeconomic levels scored somewhat higher on the LARRT than did children from lower socioeconomic levels. No significant differences were found between the two groups on the attitude measure.

Pumfrey, Peter D. The reading attainments of British children of parents of West Indian origins: Challenge and response. *Reading*, July 1983, *17*, 111-124.

Presents data on the relative reading attainments of British children of parents of West Indian origin (BWI). In particular, a selection of data from the Inner London Education Authority (ILEA) are cited. Included in a larger group from ILEA were 1,465 BWI pupils.

Children were tested at ages 8, 10, and 15 on tests devised by the National Foundation for Research in Education. The group administered test involved silent reading. When mean scores of BWI children were compared with those of nonminority children in the study, BWI children showed significantly lower mean scores. Additionally, BWI children showed a small decrement in their mean scores between the ages of 8 and 15. BWI children who had completed only part of their primary education in British schools were 14 to 15 standardized points below the mean of the total age group at all three age levels. Additional analyses indicated that the differences between the BWI group and the indigenous group could not be totally explained by differences in social factors or time in school in England.

IV-16 Reading interests

Leibowicz, Joseph. Children's reading interests. *The Reading Teacher,* November 1983, *37,* 184-187.

Reviews selected studies from the ERIC base in the area of children's reading interests, with emphasis on the qualities of books which appeal to children.

Hawkins, Sue. Reading interests of gifted children. *Reading Horizons,* Fall 1983, *24,* 18-22.

Queries 62 children regularly enrolled in an enrichment program for gifted children in grades 4-6 concerning their reading interests in content realms and in literature. A paper-pencil inventory was used to collect data. Results indicated that their reading interests do not differ from children in general. Mystery, adventure, humor, and fantasy seemed predominant in all groups. About 45% indicated that they read the newspaper with the comics most widely read. Magazine reading increased with age while comic book reading decreased. Chronological age rather than intellectual ability appeared to be important in determining reading interests.

Palmer, Princess A., & Palmer, Barbara C. Reading interests of middle school black and white students. *Reading Improvement,* Summer 1983, *20,* 151-155.

Investigates the reading interests of sixth grade children (n = 50). All subjects scored below the 20th percentile on the *California Test of Basic Skills,* had a 1.5 year reading disability (test unspecified), and were members of a family whose average yearly income was less than $7,000. The pupils were evenly divided between the sexes, 26 being white and 24 black. All subjects completed the *Estes Attitude Scale* (Elementary Form) and responded yes/no to whether they would like to read each of 30 books. Areas covered by the books included stories about men and women in sports, mysteries, classics, fairy tales, science, science fiction, animal stories, and humor. There was a high correlation between being black and choosing certain books and being white and choosing other books. There was no correlation between race and attitude to reading.

Itzkowitz, Susan G. Reading interests of first grade students and basal story content. *The Reading Instruction Journal,* Fall 1982, *26*(1), 18-19.

Assesses whether there are differences between the story content of the basal and the reading interests of 50 first graders. Five books in one series were analyzed for story content. Five categories of stories emerged: children/ family city, children/family country, animals, fantasy, and general information. Individual reading preferences based on responses to 40 fabricated titles were compared to the number of actual textbook stories in each of the five categories. Significant differences were found between the analyzed texts and the preferences of children. Children's preferred categories were fantasy and general information and texts were heavily weighted toward children and family in both city and country settings.

KIEFER, BARBARA. The responses of children in a combination first/second grade classroom to picture books in a variety of artistic styles. *Journal of Research and Development in Education*, Spring 1983, *16*(3), 14-20.

Studies primary grade children's reactions to picture books by recording a variety of responses to a wide range of picture books. Nineteen second graders and four first graders in one classroom were observed over a 10-week period, and a daily log maintained. Data were examined and organized in three general categories: variations among children, changes over time, and the context in which responses occurred. The present report deals primarily with variation among children and responses were categorized as: how children choose picture books, how they look at them, what they talk about, what is seen, and what behaviors and products grow out of their contacts with books. Children generally experienced (looked at) picture books in three ways: group reading, partner reading, and sustained individual silent reading. As a result of experiencing through looking, in which they often saw small details or focused on similarities (such as similar type font), they talked about books. Following their first reading, they chose a variety of ways to respond: they read, talked about, or wrote about a book. Aspects of the picture books they read seemed to appear somewhat unconsciously in their language and in the things they created. Finally, these individuals' responses often changed with individual books. Setting was important, what peers read, the time element involved, and a variety of materials. Most important, a teacher or other adult who was able to help with their early responses, stood out.

ABRAHAMSON, RICHARD F., & SHANNON, PATRICK. A plot structure analysis of favorite picture books. *The Reading Teacher*, October 1983, *37*, 44-48.

Analyzes 67 of the most popular picture books on the 1982 Children's Choices list (defining those as up to 64 pages, with the exception of poetry books), in which the pictures were an integral part of the text. Books were placed into one of 11 plot category types. Data were collected from some 10,000 children in grades K-8. Juvenile readers found enjoyment in three major story types: confrontation with a problem, contrast between or among characters, and episodic stories. Although the order of preferences had changed from an earlier list of choices, the favored plot structures remained consistent.

LINDQUIST, JERRY. Utah's Governor helps children learn to read. *Wisconsin State Reading Association Journal*, Summer 1983, *27*(4), 17-18.

Describes very briefly the outcomes of a summer reading program. The program began with two elementary schools, and by the fourth year 14 schools participated. Pupils who read 10 or more books over the summer received a certificate signed by the governor. By year four, over 1,300 children personally received their certificates. In a follow-up, teachers reported that 83% of summer reading program participants chose reading more frequently than did other pupils. Parents reported an improvement in children's interest in reading in 65% of the pupils.

SINGH, MICHAEL J. Reader guidance: Improvements in practice and knowledge. *Reading Education*, Spring 1982, *8*(2), 34-47.

Reflects on the insights gained by the author, a teacher-librarian, who implemented an action research project dealing with reader guidance. The actions implemented in helping children choose and discuss relevant literature were: 1) adult-balanced, in which reader responses were elicited in small group discussions led by the librarian; 2) peer-dominated, where children interacted with one another in small groups without adult intervention, 3) adult-influenced, in which children discussed in the absence of adults but following adult prepare literary questions; and 4) balanced peer group discussion, where children prepared questions prior to, during, and following reading and peer group discussions. The influence of the peer group on reading behavior is underscored. Shared responses to reading experiences were felt to be more important in promoting the reading habit than were approaches utilizing competition and individualism.

HVIID, INGE. Children's use of talking books. *Scandinavian Public Library Quarterly*, 1983, *16*(3), 97-98.

Interviews children to determine how they used talking books taken from the Danish public library. Data relative to number of subjects are not reported. The 9- to 13-year old age group borrowed the largest number of books as well as the greatest number of talking books. Their first choices were titles recommended by friends or ones they were familiar with in written form. Parents who had frequently read aloud to their children continued to do so. Many children borrowed both versions of a book. Some children engaged in other activities while listening to talking books.

LEPPÄNEN, RAIJA. "Every year is children's year in the library." *Scandinavian Public Library Quarterly*, 1983, *16*(3), 91-92.

Gives a brief description of a theme year program in one Finnish province designed to increase children's library holdings as well as to encourage reading. Included in the program was an agreement between the school and public library in each municipality to cooperate on instruction in library usage. Activities used to promote reading included talks by authors, story hours, puppet shows, and films. The final report stated that the number of child borrowers increased and the children read more library books than at the beginning of the period. Particularly, reading among rural children showed an increase.

JOELS, ROSIE WEBB, & ANDERSON, BETTY. Reliability of reading interest assessment: An applied study. *Reading Horizons*, Summer 1983, *23*, 230-234.

Assesses whether change in pupils' reading interests influences test-retest reliability of an interest assessment. Subjects, 173 fifth graders, were administered two parallel forms of a reading interest survey containing fictitious annotated titles at three different administrations: two, one-week apart, and a third, six months later. Product-moment correlation coefficients, computed for each of six categories, indicated lower coefficients after six months than after one week, but changes were not sizable. Coefficients at the one-week interval ranged from .65 to .82 for categories; at the six-month interval, from .58 to .76. Rank orderings of categories remained the same through all three administrations. Mystery/Adventure was the most preferred category and Science the least preferred.

IV-17 Attitudes and affect toward reading

WEDMAN, JUDY M. Attitudes and reading achievement of students in an alternative high school. *Reading Psychology*, April-June 1983, *4*, 121-127.

Investigates whether 40 students attending an alternative high school experienced a positive change in attitude toward school, toward self and others, and improved in their reading ability as a result of such attendance. The *Oklahoma Scales* consisting of 120 items measuring attitude towards school, toward self and toward others, and the *Gates-MacGinitie Reading Survey*, were administered in September and again at the close of the school term. Significant mean differences were found for females on attitudes toward school, self and others, and for males on attitudes toward self. Significant mean differences were found on reading comprehension scores, but not on vocabulary. A significant relationship was found between attitudes toward school and others and reading comprehension for males, but not for females or for other variables.

SWANSON, BEVERLY B. The relationship of first graders' reading attitudes to sex and social class. *Reading World*, October 1982, *22*, 41-47.

Explores first graders' attitudes toward reading and whether, after four months of reading instruction, sex and social class differentiate scores on the *Heathington Attitude Pri-*

mary Scale. For Study 1, subjects were 60 urban first graders, 10 males and 10 females from each of three socioeconomic (SES) levels. Females scored higher than males, although average males scored higher than average females. Low SES males scored significantly lower on attitude than low SES females. Average and high SES males and females were closer in attitude scores. For Study 2, subjects were 60 selected from the same population, and for Study 3, 60 from a rural population. Attitude differences were found between SES levels and sex: high SES children scored higher than average; average scored higher than lows. Females were higher than males at low SES levels, average males outscored average females, and only slight differences were found for high and average SES levels. Low SES females scored higher than any other groups. In Study 3, no significant differences were found for sex or SES or for the interaction between the two. Scores from the rural first graders were more homogeneous than for the urban groups.

CROUCHER, AUDREY, & REID, IVAN. Pupil attitude changes to junior school activities. *Research in Education,* November 1981, No. 26, 41-48.

Asserts that attitude change is related to individual differences and employs a scale which assesses attitudes and specific school activities. The study forms part of an interdisciplinary investigation of achievement involving over a thousand pupils from 16 junior schools in a northern British city. Subjects were tested on various measures of ability, attitude, personality, and attainment at the end of their junior year of school (ages 9-plus) and again at the end of the following year (age 10-plus). Attitudes were tested and retested using a modified form of *Sharples's Attitude to School Scale.* This instrument was designed to assess attitudes to specific school activities. Results confirmed the hypothesis that girls hold more favorable attitudes than boys, although this was more true for pupils at age 9-plus than 10-plus. The hypothesis that attitude deteriorates with increasing age was supported, although boys did not appear to deteriorate more than girls. There was no evidence to support the hypothesis that greater gains in attainment were associated with increasingly positive attitudes. Similarly, attitude change did not appear to be strongly associated with ability or personality factors. The results appeared to support the view that attitudes are more influenced by factors associated with individual differences.

LIPSKY, JAMES A. A picture-story technique to uncover covert attitudes associated with reading failure. *Reading Psychology,* April-June 1983, *4,* 151-155.

Reports the development and validation of the *Reading Attitude Imagination Technique* (RAIT) to assess fifth grade boys' attitudes toward reading through their reactions to a set of nine ambiguously drawn pictures depicting scenes involving the reading process. Twenty subjects classified as high or low achieving readers were asked to make up a story about the ambiguous pictures, giving them a beginning and an ending, and telling what the people in the picture were thinking and feeling. The first sample was used to determine the 109 attitude statements that were most discriminating before their administration to the 118 subjects in the second sample. These 118 represented the top and bottom 25% on a reading achievement test. T-ratios were significant ($p < .05$) on eight of the nine pictures, in favor of the top achieving readers who had significantly more positive attitudes toward reading.

SANDERS, MARY ELLEN, & HEIM, KATHY. Students' perceptions of remedial reading. *Reading World,* October 1983, *23,* 54-59.

Develops a two-part survey instrument to determine pupils' attitudes towards themselves and the remedial reading program. The first 19 items on the instrument were answered by 338 pupils in grades one through five; an additional 13 items were answered by the 186 pupils who had previously attended or were attending special reading classes. Three items were open-ended; the remainder required "yes/no" responses. Over 95% of pupils circled "yes" to the item asking if children go to special reading "to learn to read better," and over 85% circled a "yes" response to the statement that pupils attend special reading "to learn that reading can be fun." Of those attending special classes, 90% circled that they have "a lot of friends" and 84% circled "yes" when asked, "Are you a good reader?" In general, responses to the program were quite positive.

WILLIAMS, PAUL J. The avid and non-avid reader: A descriptive study of the silent reading behavior of readers who can and do and can and won't. In Thelma Bessell-Browne, Ross Latham, Noelene Reeves, & Elizabeth Gardiner (Eds.) *Reading into the 80's.* Adelaide: Australian Reading Association, 1980, 49-80.

Attempts to identify and describe differences in the silent reading behavior of competent grade five avid (A) and nonavid (NA) readers. Competency was determined by scores on the *G.A.P. Reading Comprehension Test.* Pupils were classified as A or NA readers on the bases of 1) library borrowing records, 2) classroom records of books borrowed, 3) teacher identification, and 4) interview. IQ range for subjects was 100 to 110+; mean CA was approximately 10.7 years. Pupils came from one school located in a lower-middle class socioeconomic area. In the A group there were 7 girls and 2 boys; in the NA group, 4 girls and 6 boys. Mean number of books read per week over a 14-week period was 3.2 in the A group and .96 in the NA group. The study was conducted in two phases. Phase One, lasting 14 weeks, consisted of the study of library records of 39 pupils in the initial screening. Phase Two, also lasting 14 weeks, began with the administration of the G.A.P. and categorization into A and NA groups, followed by the administration of three attitude scales, and then the completion of eight cloze tests over an eight-week period. Performance on the cloze was categorized into independent, instruction, and frustration reading levels. A readers operated competently at the instructional level for a greater length of time and persevered longer as reading tasks became more difficult, while NA readers reached frustration level faster than did A readers. When Not Exact Responses (NER) on the cloze tasks were scored, no significant differences appeared between the two groups at the independent level for the four areas examined: grammatical function, syntactic acceptability, semantic acceptability, and loss of meaning. At the instructional level, the A group outperformed the NA group in the grammatical function and semantic acceptability ares of the NERs. At the frustration level, analysis of NERs showed the A group did better than the NA group on all categories except for grammatical function. A readers were significantly more positive towards reading on the three attitude measures than were NA readers.

MARTINS, DANIEL. Influence of affect on comprehension of a text. *Text*, 1982, *2*(1-3), 141-154.

Reports a study which demonstrated how comprehension was influenced by affect, defined as that intensity of feeling attached to the semantic content of the text. An understanding of the process of text comprehension was approached through propositions and macropropositions recalled after reading in the process of recall and summarizing. The general procedure consisted of presenting the text to subjects, along with instructions to read it carefully with comprehension in view. Subjects in all three experiment groups (n = 34, 25, 27) were students enrolled in psychology at the University of Paris. Group 1 subjects read and then did a written recall and summary; Group 2 read and the was asked to rank 24 of the text sentences for their intensity of affect; Group 3 read and then was asked to select from the 24 sentences, 12 which best summarized the text. The task of rating sentences for their intensity of affect is independent of the task of choosing the sentences which make up the best summary of the text. Both propositional and macropositional analyses were made for recall and summary tasks. The two were mutually consistent but quantitative differences were observed between performances on the recall and summarization tasks.

Spiro, Rand J.; Crismore, Avon; & Turner, Terence J. On the role of pervasive experiential coloration in memory. *Text*, 1982, *2*(1-3), 253-262.

Argues for the complementary functioning of discursive/propositional and experiential memorial representation of information from text. Selected supportive research is cited with special attention given to an as yet unreported study by two of the authors.

Greaney, Vincent, & Neuman, Susan B. Young people's views of the functions of reading: A cross-cultural perspective. *The Reading Teacher*, November 1983, *37*, 158-163.

Explores the functions of reading for grades three, five, and eight in Ireland (n = 279) and in the United States (n = 180) to determine if the same functions or reasons for reading operate in both countries. Subjects were administered a 16-item Functions of Reading Scale. Three distinctive factors were identified in each culture, but the sets of factors were highly similar. Data were then pooled from both countries. Three dominant factors for reading emerged: enjoyment, utilitarian functions, and escape. Girls scored higher on reading for enjoyment but lower on utilitarian purposes. No differences were found on escapism. Fifth graders read more for enjoyment than did third or eighth graders. Third graders more often regarded reading as a utilitarian activity. Third graders also read more for escapism than did the other grades. Irish pupils tended to read more for enjoyment and utilitarian purposes than did the Americans. American pupils read more for escapism than did the Irish.

Cappella, Betty J.; Hetzler, James T., & MacKenzie, Clare. The effects of positive peer influence on study habits. *Reading Improvement*, Winter 1983, *20*, 299-302.

Investigates the effects of positive peer influence on the study habits and attitudes of 30 on-campus college students. Subjects in both control and experimental groups were pairs of roommates. The *Survey of Study Habits and Attitudes* (SSHA) was administered to both groups as pre- and posttests. Within the experimental group, one roommate of each pair was chosen to be the confederate. The confederate was given the purpose of the study and was instructed to try to increase the amount of time his or her roommate spent studying by providing a good example of study skills, as well as other supportive methods. Confederates were instructed to initiate the procedure at a time when the roommate was not actively engaged in study and to continue one hour per day for seven days. At the end of seven days, no significant differences were found in control group scores but experimental group scores improved. Confederate scores increased slightly but not significantly. Roommates' scores indicated a significant increase ($p < .05$).

Morrow, Lesley Mandel. Home and school correlates of early interest in literature. *Journal of Educational Research*, March/April 1983, *76*, 221-230.

Describes the home and school environments and behaviors of 21 classes of 396 kindergarten children identified as having a high or low interest in literature. Part 1 of the study examined means of assessing literature interests of young children; Part 2 described the home and school environments. In Part 1, measures included: use of literature during free play, teachers evaluations of pupils' literature interest, the duration of children's recreational reading, a forced choice survey where the child was asked which of two activities he would prefer to do, and the use of literature during free play, after changes had been made within the classroom to increase children's interest in literature. In Part 2, data sets on 116 children, 58 in the high interest group and 58 in the low interest group were analyzed. Parents completed questionnaires, teachers filled out diagnostic forms, and children took the *TOBE 2 Language Test*. Student teachers rated the literary environment of the classsroom using guidelines assessing literature activities and room arrangements. High interest children preferred crayon and paper activities, looked at books more frequently, had more library cards, were read to more often, and watched less television than low interest children. More parents of children in the high interest group held college or graduate degrees and voluntarily read as a leisure time activity. Parents of children in the high interest group read more novels and magazines than did parents of children in the low interest groups. Children in the high interest group were more likely to come from smaller families and books were found in all parts of the home. In all areas of school behavior, high interest children received higher ratings than low interest children, and came from classrooms where literature programs were rated as good or excellent and well designed literature corners were present.

STEVENS, MICHAEL J., & PFOST, KAREN S. Bibliotherapy: Medicine for the soul? *Psychology*, 1982, *19*(4), 21-25.

Reviews the experimental literature on bibliotherapy. It is concluded that the research portrays a generally unfavorable picture of the effectiveness of bibliotherapy as a psychotherapeutic and growth-promoting intervention tool, although some positive results have been noted relative to attitude change. It is noted that the research has not been cumulative and evolutionary and that the data base is limited. Suggested guidelines for future research are presented.

SCHRANK, FREDERICK; ENGELS, DENNIS W.; & SILKE, JAMES R. Using bibliotherapy in the elementary school: What does the research say? *Wisconsin State Reading Association Journal*, Winter 1983, *27*(2), 23-29.

Discusses the potential uses of bibliotherapy as supported by the research literature. The research is contradictory but findings suggest that bibliotherapy is more effective for some needs, learnings, or problems than others. The authors feel the research supports the conclusions that bibliotherapy can change children's attitudes, and may be effective in helping elementary age children reduce their fears. On the other hand, research findings indicate that bibliotherapy does not affect achievement.

NEWHOUSE, ROBERT C., & LOKER, SUZANNE. Does bibliotherapy reduce fear among second-grade children? *Reading Psychology*, January-March 1983, *4*, 25-27.

Assesses the effectiveness of bibliotherapy in reducing the fears of grade two children. Of the 30 children, 15 were assigned randomly to an experimental group and 15 to a control group. Experimentals were read selected books on fear related topics and then entered into a supervised discussion. Twenty-eight sessions were used. The *Link Children's Fear Scale* was administered as a pre- and posttest. Analysis of variance techniques showed us differences between the two groups on the posttest fear scale scores.

LONG, ROBERTS. Soviet children's books: Expanding children's views of the Soviet Union. *Journal of Reading*, February 1984, *27*, 418-422.

Asks 25 seventh graders to read selected Soviet children's books and then notes the changes in their perceptions of the Soviet Union. Before reading the books, children were asked to write a story about an imaginary trip to the U.S.S.R. Children then were encouraged to read several English translations of Soviet books from a total of 50 available books. After reading the books, a second story was written. Excerpts from the stories are presented as evidence that the global understanding of the seventh graders had been enhanced.

IV-18 Personality, self-concept, and reading

WOOD, J.R.A., & BURNS, R.B. Self-concepts and reading ability in ESN(M) pupils. *Research in Education*, May 1983, *29*, 41-55.

Investigates the differences in self-concepts of 9- to 13-year-old ESN(M) children as a result of differing school placements, examines differences in their reading as measured by the *Neale Analysis of Reading Ability*, and investigates whether ESN(M) pupils develop a self-concept of their reading abilities that is different from that developed by those who have higher cognitive abilities. Sixty-two children from special schools and 3[illegible] from special classes in regular schools were administered the *Lipsitt Self-concept Scale for Children*, the *Academic Self-image Scale*, and a rewording of the *Academic Self-concept* items to make them more specific to reading. No significant differences were found between scores of ESN(M) children in special schools and in special classes. No significant associations were found for length of special education treatment and global, academic, or reading self-concepts. There was a significant association for self-concept of reading ability with reading accuracy for both groups and for reading comprehension with those in the special class group. Overall, placement within a special school did not appear to be more advantageous, although there were differences in self-concept and ascertainment and placement among the pupils in the two settings, suggesting that without differential treatment there could be even greater spread of scores.

PASCARELLA, ERNEST T.; PFLAUM, SUSANNA W.; BRYAN, TANIS H.; & PEARL, RUTH A. Interaction of internal attribution for effort and teacher response mode in reading instruction: A replication note. *American Educational Research Journal*, Summer 1983, *20*, 269-276.

Compares the effectiveness of two conditions of an instructional program for 47 learning disabled and low readers in grades 3, 4, and 5. In both conditions, the instructional program consisted of 24 lessons: 12 on error awareness and determination of error seriousness for using sentence meaning to decode, and 12 lessons on self-correction to regain sentence meaning once an error has occurred. Only the teacher response procedure differed. In the high-structure condition, teachers were directed to encourage pupils to figure out for themselves when they identified errors as serious and when they made good guesses while learning to self-correct. Pre- and postmeasures were instructional level scores on a commercial informal reading inventory. Additionally, a measure of student attribution, the *Intellectual Achievement Responsibility Scale*, was administered. Results suggested that both individuals and groups initially low in internal attribution for effort benefitted more in reading from the high-structure condition, while children and reading groups high on internal attribution derived greater benefits from the low-structure condition.

DOUGHERTY, A. MICHAEL, & SCHMIDT, THOMAS. Study skills, locus of control and achievement. *Educational and Psychological Research*, Winter 1981, *1*, 11-24.

Assesses whether a relationship exists among locus of control, academic achievement, general achievement, and study skills knowledge for 76 male and 49 female "high risk" students enrolled in a university study skills course. All subjects were administered the *Effective Study Test*, the *Adult Nowicki-Strickland I-E Scale*, and a printed sheet on which they indicated the percentage that ability, effort, luck, and difficulty of the college program contributed to their GPA. Sex differences were found on locus of control, overall EST Scales scores, subtests of the EST, and GPA and SAT performance.

Bain, Heather C.; Boersma, Frederic J.; & Chapman, James W. Academic achievement and locus of control in father-absent elementary school children. *School Psychology International*, April-June 1983, *4*, 69-78.

Reports standardized achievement test scores and academic locus of control in a population of 28 father-absent (FA) and 28 father-present (FP) third-grade children of similar IQ characteristics. *The Wide Range Achievement Test* (WRAT), and the *Intellectual Achievement Responsibility Questionnaire* (IAR) were employed along with other measures. Father-absent children performed significantly less satisfactorily than FP children in reading achievement. There were no differences between the two groups in spelling and arithmetic, but FA males performed significantly less satisfactorily than FA females, whose achievement level was closer to that of the FP males and females. For academic locus of control, FA children, compared with FP children, tended to perceive successful achievement outcomes as being related to external sources of control such as task ease or teacher assistance. On the other hand, the two groups took similar responsibility for their failures. The academic locus of control characteristics of the one-parent children suggested that their achievement deficits may become more pronounced in later grades.

den Heyer, Ken. Reading and motivation. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 51-65.

Reviews research concerning the effect of motivation on reading achievement. Specifically research concerning reading and teacher expectancy, self-concept, locus of control, the achievement motive, and the attribution theory of achievement is discussed. It is concluded that motivational measures relate poorly to reading achievement in young children just entering the educational system, that the relationship between motivational measures and reading achievement increases consistently with age, and that this relationship is well established in the higher primary grades.

Tunmer, William E., & Fletcher, Claire M. The relationship between conceptual tempo, phonological awareness, and word recognition in beginning readers. *Journal of Reading Behavior*, Summer 1981, *13*, 173-185.

Investigates the relation between conceptual tempo, verbal ability, phonological awareness, and word recognition of 37 Australian first graders. Conceptual tempo (reflectivity-impulsivity) was assessed with the *Matching Familiar Figures Test* (MFFT). Verbal ability was determined with the *Peabody Picture Vocabulary Test* (IQ). Word recognition was assessed with the *Wide Range Achievement Test* (WRAT) and the *Synthetic Word Test* (SWT), while the *Phonemic Segmentation Test* (PST) was used to asses phonemic awareness. Children were tested individually in a two-week period in the second half of first grade. Significant correlation coefficients were: MFFT and SWT, .64; MFFT and PST, .44. No other correlation coefficients were significant, including MFFT and WRAT.

Carbo, Marie. Research in reading and learning style: Implications for exceptional children. *Exceptional Children*, April 1983, *49*, 486-494.

Identifies research supporting the author's hypotheses that: 1) learning style preferences differ across ability/achievement levels, 2) poor readers tend to be tactile-kinesthetic learners, 3) learning styles of many poor readers are not taken into account, and 4) reading achievement improves when programs are geared to individual learning styles. Methodological problems with previous aptitude-treatment-interaction research is identified. More recent research, including some by the author, is referred to as reporting significant interactions between modality strengths and reading treatments. It is stated that the research suggests that disabled readers have a biased arousal of the right hemisphere and would probably benefit from holistic reading approaches. Recommended procedures for instruction of poor readers are given.

CHITTENDEN, EDWARD. Two paths lead to reading success. *ETS Developments*, Fall 1982, *28*(2), 5-8.

Highlights very briefly some of the conclusions of a longitudinal study designed to determine how children learn to read. Trained observers tracked each of 57 second graders' progress for 18 months. The data were generated by classroom observations, teacher interviews, writing and oral reading samples, drawings, paintings, worksheets, and photographs of crafts. The researchers concluded that how children learn to read reflects their stylistic approaches to most everything else they do in the classroom. The two major style dimensions observed in reading, art, play, other schoolwork and relations with peers were called momentum and accountability. Momentum children were characterized as readers by skipping words and reading for the gist of the story. Accountability children were reluctant to guess at words or meaning and to work out or wait for help or words they could not read. Describes the similarities in the approach to reading of these two types of students and their approaches to other classroom activities.

DAVEY, BETH. Cognitive styles and reading research: Some methodological concerns and future directions. *Reading Psychology*, January-March 1983, *4*, 65-77.

Samples research into cognitive styles and considers how research in reading might benefit from such explorations. Subheads include Field Independence, Methodological and Theoretical Concerns, and Reading Research Directions. The author notes that the field needs research into the relation between reading behaviors and such cognitive style dimensions as conceptual tempo and flexibility. Cognitive style measures need refining; and the relation between cognitive styles and metacognitive behaviors is another area of needed research.

LOGAN, JOHN W. Cognitive style and reading. *The Reading Teacher*, March 1983, *36*, 704-06.

Reviews selected ERIC research on defining, identifying, and interpreting cognitive styles, and relates research on cognitive style to teacher classroom use and to student reading performance.

ADEJUMO, DAYO. Effect of cognitive style on strategies for comprehension of prose. *Perceptual and Motor Skills*, June 1983, *56*, 859-863.

Investigates the effects of cognitive style on four groups who employed different study strategies for the comprehension of prose as found in a psychology textbook. Performances on the *Group Embedded Figures Test* were used to classify subjects into groups by cognitive styles. Subjects involved were 201 field-dependent and 125 field-independent students enrolled in an introductory course in psychology. Field-independent subjects in a control group and the groups which were given factual and inferential questions as study guides or aids performed better than the field-dependent subjects on inferential items at posttest. On the factual items at posttest, field-independent subjects performed significantly better only in the group which had been given inferential questions as an adjunct. Cognitive styles of the subjects interacted with the strategies of study and appeared to affect performance of prose at posttest.

MARSH, HERBERT W.; SMITH, IAN D.; BARNES, JENNIFER; & BUTLER, SUSAN. Self-concept: reliability, stability, dimensionality, validity, and the measurement of change. *Journal of Educational Psychology*, October 1983, *75*, 772-790.

Examines the validity and reliability of self-concept and its relationship to other criterion variables. In the first study pupils in 30 5th/6th-grade reading classes in Australia were administered the reading comprehension portion of the *Progressive Achievement Test* and the *Self Description Questionnaire* (SDQ) (a measure of self-concept). Teacher ratings of pupils' self-concept were made for each of the seven scales assessed by the SDQ. Six months later all measures were readminstered. A similar test-retest approach was used in a second study. Pupils in five 4th-grade classes were tested using the SDQ and the *GAP* reading test, then retested five months later. Data from the two studies were pooled for analysis. The internal consistency of student self-concept ratings was high (.87 to .92). Stability coefficients over time were also high (.61 to .65) but not as high as internal consistency. Teacher judgments were both internally consistent and stable over time. Coefficients between pupil and teacher ratings varied with the type of self-concept or scale being rated. Academic performance was found to correlate most highly with self-concept in the same area.

IV-19 Readability and legibility

Hartley, James, & Rooum, Donald. Sir Cyril Burt and typography: A reevaluation. *British Journal of Psychology,* May 1983, *74,* 212.

Reexamines Sir Cyril Burt's contributions to typography in five areas: 1) spacing of words and text on the page, 2) effect of presence or absence of serifs on reading speed, 3) effects of different typefaces on speed and comprehension, 4) effects of different typesizes and line-lengths on speed and comprehension, and 5) preferences for different typefaces. Under each heading, Burt's work is critiqued and compared with other research efforts. The authors conclude that much of Burt's writing in this area was opinion and not supported by the data he presented.

Steinberg, Cindy, & Bruce, Bertram. Higher level features in children's stories: Rhetorical structure and conflict. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 117-125.

Constructs a theory of higher level story features and applies it to a selection of children's stories. The theory examines author-reader interactions and character-character interactions, and argues that conflict in the latter is important to many stories. A sample of 16 upper primary level and 16 lower primary level stories was selected from trade books, basal readers, and other educational texts. Readability was assessed by the *Fog Readability Index* and the *Spache Readability Formula.* Five adult raters read the stories and ranked them in order of preference. A form composed of questions on conflict type, response and resolution modes, rhetorical form, point of view, and inside view, was used by five other adults to code the stories. Of the 32 stories, 29 exhibited conflict, 28 exhibited interpersonal conflict, 25 had environmental conflict, and 8 internal conflict. A metric of conflict complexity was calculated. There was no significant relationship between this measure and readability as determined by a formula. It is argued that readability indices may be missing important facets of what makes a story complex. A significant rank correlation coefficient ($p < .01$) was found between reader preference and amount of inside view (the portrayal of a character's thought and feelings).

Froese, Victor. Rauding and Seering: Judging global readability. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 309-312.

Investigates three methods for assessing the readability of text. The *Spache Readability Formula* and the *Dale-Chall Readability Formula* were used to assess the readability of eight passages. Subjects ($n = 42$), who were teachers with between 2 and 20 years teaching experience, then used the *Rauding Scale* and the *Singer Eyeball Estimate of Readability*

(SEER) to rate all the passages. Seven of the passages had different ratings by the two techniques ($p < .05$). The amount of teaching experiences of the raters did not affect the accuracy of the ratings. Rank order correlations of ratings using the techniques with ratings using the formulae showed a close relationship for the SEER technique ($r = .881$), and a reciprocal ordering for the Rauding technique ($r = .762$).

Feldman, Phil; Casteel, Carolyn; & Field, Maurice. Using microcomputers to determine readability levels. *Reading Improvement*, Summer 1983, *20*, 82-86.

Explores the use of microcomputers to compute five readability formulas: Lorge, Flesch, Dale-Chall, Gunning Fog Index, and McLaughlin's SMOG. VISICALC, a widely used spread-sheet computer program, was adapted into a computational program that allows users to obtain five readability estimates and a grand average based on the five.

Bamberger, Richard, & Rabin, Annette T. New approaches to readability: Austrian research. *The Reading Teacher*, February 1984, *37*, 512-519.

Reports a large-scale project to develop and validate readability formulas, particularly for use with the German language. Although more than 10 formulas were developed, four are reported. Three of the formulas are original. These formulas take into account sentence length and percentage of hard words, as well as subjective judgments of nonlanguage variables. The fourth formula is a modification of the Swedish Lix procedure which uses an additive procedure instead of a regression analysis and considers sentence length and percentage of long words. Much of the discussion focuses on a prototype system intended to aid in evaluating the individual variables which contribute to the difficulty of children's reading materials.

Kretschmer, Joseph C. Computerizing and comparing the Rix readability index. *Journal of Reading*, March 1984, *27*, 490-499.

Reports the development of RIXRATE, a computer program written in BASIC, to compute the RIX readability of a text on a sentence-by-sentence basis, and compares RIX estimates with those of three other short formulas: Fry, Raygor, and SMOG. RIXRATE requires no knowledge of programming, and the listing of the program (for Apple and TRS-80) is included. On three 10-sentence samples from 10 books, rank-order correlation coefficients were: RIX and Fry, .96, RIX and Raygor, .97, and RIX and SMOG, .97. At the primary levels, RIX and SMOG estimates were even closer in agreement.

Campbell, A.J.; Marchetti, F.M.; & Mewhort, D.J.K. Reading speed and text production: A note on right-justification techniques. *Ergonomics*, August 1981, *24*, 633-640.

Reports two experiments investigating the reading of computer generated text. In the first experiment, undergraduates ($n = 57$) read a 10-paragraph text in one of two forms. The text was right justified by calculating the space from the right margin to the end of the line in blank characters and either distributing that space in whole-character units between the words on the line, or distributing the space between and within the words forming the line. Time taken to read the passage was determined. Subjects also completed a timed comprehension test on the material, and a timed general vocabulary test. Reading time for the variable-space text was faster than for blank-space insertion ($p < .01$), and more comprehension questions in the former version were answered correctly ($p < .05$). In the second experiment, undergraduates ($n = 99$) were randomly assigned to one of the conditions in the first experiment and to a normal typescript condition. Procedures were the same. The variable-space text was read faster than the other two types of text ($p < .03$), and there was no difference in reading speed between the normal text and the blank-space insertion text. Comprehension did not differ between conditions, nor did vocabulary scores in either experiment.

MOON, CLIFF. Identification of readability factors. In L. John Chapman (Ed.) *The Reader and the Text.* London: Heinemann Educational Books Ltd., 1981, 39-48.

Reviews selected research by the author and others which uses miscue analysis to investigate factors affecting the readability of texts. Factors are addressed under the headings: 1) Layout – including illustration interference, incorrect spacing, split words, and line breaks; 2) Style – including faulty style, says/said variations, and nonfiction style; 3) Syntax – including syntactic pattern breaks, coordinate clauses, and pre- and postcued direct speech; and 4) Structure.

FOSTER, JEREMY J. The use of visual cues in text. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language,* Vol. 1. New York: Plenum Press, 1979, 189-203.

Investigates the effect of cuing key material on recall. In a preliminary experiment to determine what should be cued, adults (n = 26) were provided with a 3,400-word text on psychology. In condition A subjects were asked to underline no more than 16 key sentences and in condition B, no more than 8. In condition A the 213 selections were distributed across 80 sentences, and in B the 102 selections were distributed over 52 sentences. In the second experiment, the 16 sentences selected by six or more subjects were chosen for cuing in one condition, randomly cued sentences appeared in a second version, and no cuing in a third version. Cuing was provided by capitalizing the sentences. Adult subjects (n = 27) read one version and after one hour were asked to summarize the text. Protocols were scored for the number of idea-units produced in three categories: core material, enrichment material, and headlines. The relevant cue group scored better than the other two groups on core material ($p < .05$). It was concluded that typographic cuing can facilitate effective reading.

DUFFY, THOMAS M.; CURRAN, THOMAS E.; & SASS, DEL. Document design for technical job tasks: An evaluation. *Human Factors,* April 1983, *25,* 143-160.

Evaluates the extent to which the theory description section of a technical manual (TM) can be made more comprehensible. A nine-page segment from a TM, identified as difficult to comprehend, was given to three separate companies to be redesigned. Companies specialized in document design and were allowed complete freedom in redesigning the text. For evaluating the effectiveness of the designs, 379 electronics technicians in their final month of apprentice training were give one of two tests: a 25-item short-answer fact test and a 17-item multiple-choice inference test. A short questionnaire eliciting views on format, graphics, prose, and design of TMs was also administered. None of the redesigns resulted in more accurate or faster comprehension performance than on the original; one redesign resulted in lower accuracy. No differences were found among designs for subjects' ratings on ease of locating information in graphics, adequacy of the prose explanation of the graphics, or in the tendency of the readers to use both the prose and the graphics to verify responses. However, other characteristics of the redesigns were rated as better than the original. The authors conclude that resequencing and reformatting information does not necessarily make a difficult text more comprehensible.

JOHNS, JERRY L., & WHEAT, THOMAS E. Newspaper readability: Two crucial factors. *Journal of Reading,* February 1984, *27,* 432-434.

Assesses whether there are significant differences in readability levels between impersonal, those reporting a news event and not dealing with a named person, and personal articles, those centering on named people and life situations. One-hundred-word passages from 54 articles from two metropolitan newspapers were examined using the Fry readability formula. There was a significant difference between the mean readability ratings for the impersonal and personal articles. While the range of readability for the two types was about the same, the impersonal articles averaged over 1.5 years higher in readability than the personal articles. Newspaper articles dealing with named people and events tended to be at or below the ninth-grade level.

Bertalan, John The readability of community college social science textbooks: Student reading levels and effects on academic achievement. *Western College Reading Association Journal*, Spring 1983, *2*(3), 2-4.

Calculates Dale-Chall readability levels for eight social science texts used in a community college. The *Nelson-Denny Reading Test* was administered to 375 students enrolled in 19 classes using the texts, and course grades were collected. The mean score on the Nelson-Denny was 12.44, mean readability level of the eight texts was 11.3. Only one textbook was above the mean score on the Nelson-Denny, and two were below. Of the student population, 23% had reading scores below the readability level of the assigned text, 53% had reading scores above their assigned text's readability level, and 24% had reading scores identical to the readability levels of their texts. Multiple regression analyses indicated that for students whose reading scores were below the readability level of the assigned text, 14% of the final grade was attributable to the reading score and the negative gap; for students whose reading scores were above the text readability level, 5.5% of the course grade could be predicted by the grade placement score and the positive gap. Students with reading scores higher than their texts' readability levels tended to receive significantly higher grades than did students whose reading scores were below the readability levels of their texts.

Barrow, Lloyd H. Readability variation in advance organizers utilizing a computer program. *The New England Reading Association Journal*, Autumn 1983, *18*, 32-40.

Investigates the readability of advance organizers. A random sample of 12 post-sixth-grade science advance organizers was taken from 77 advance organizers validated in an earlier meta-analysis. The MNIRAP computer program was used to provide readability analyses for each advance organizer sample. The Flesch, Fry, Fog, Dale-Chall, Raygor, and SMOG formulas were used. The readability estimates indicated that 83% of the advance organizers were written at or below the grade level of the pupils for whom they were intended. Only two organizers were found to be at a readability level that was higher than the intended grade level. A secondary analysis compared readability formulas and recommended the Dale-Chall be used in future studies and that the Fry not be used.

Reid, D.J.; Briggs, N.; & Beveridge, M. The effect of picture upon the readability of a school science topic. *British Journal of Educational Psychology*, November 1983, *53*, 327-335.

Studies the effect of a picture on the readability of a science text. Subjects (N = 338) were 14-year-old children studying CSE Biology in six comprehensive schools. Two passages were written about the heart; one (671 words) at a reading level of 12.0, and one (619 words) at a 17.2 reading level, as measured by both the *Fry* and the *SMOG* readability formulae. The texts were presented alone, or with three pictures in four forms: colored and black and white, and two-dimensional or stereograms. A 26-item multiple-choice interior-referenced test was presented as a test of immediate recall (five items were presented as a pretest). A cloze test was presented with the texts, consisting of a 143-word passage with every eighth word deleted. Illustrated text was significantly better ($p < .01$) than non-illustrated text in promoting recall, but no difference was found for understanding as assessed by the cloze test. There was no significant interaction between presence or absence of pictures and readability level. The nature of the illustration made no difference. There was a difference in recall related to readability level ($p < .01$).

Dutka, Julia To. Anaphoric relations, comprehension and readability. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 2. New York: Plenum Press, 1980, 537-549.

Investigates the role of anaphora in relation to the comprehension and readability of text. College students (n = 172) read two texts in which they were required to write down what had been replaced by cases of anaphoric nominal substitutions. A reading score was obtained for each subject on the *Diagnostic Reading Tests*. Positive relations were found between scores on total substitution and reading comprehension (n = .78), reading vocabulary and total substitution (n = .68), and total substitution and total reading (n = .77). Item characteristics were investigated and syntactic variables were not as powerful as semantic variables in explaining item difficulty. It is argued that readability is affected by the distance the reader has to backtrack to locate the antecedent and the amount of information represented by the substitute.

FAIRBANKS, MARILYN M., & LEDESMA, LYDIA G. Sentence complexity as a factor in the relative difficulty of three passages of varying syntactic complexity. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 99-102.

Investigates the effects of sentence complexity on the relative readability of three passages. Subjects were college students (n = 97) divided into proficient, average, and weak readers on the basis of the *Iowa Silent Reading Test.* The 310-word passages were constructed at 6th grade, 10th grade, and average adult levels of syntactic complexity based on mean T-unit and mean clause length. Number of syllables and vocabulary were controlled. Readability levels on the passages as measured by the *Fry Readability Formula* were 8th, 9th, and 10th grade respectively. Ten comprehension questions were constructed for each passage, half testing literal comprehension and half interpretative comprehension. All subjects read all three passages, and, following administration, 78 students rated the passages for difficulty. All students performed best on the passage at the average adult level ($p < .01$). Proficient readers scored higher than weak readers. Students rated the average adult passage easiest and the 10th grade level passage most difficult.

TAMOR, LYNNE. Subjective text difficulty: An alternative approach to defining the difficulty level of written text. *Journal of Reading Behavior,* Summer 1981, *13,* 165-172.

Argues that in addition to measures of objective readability (as measured by readability formulae) and behavioral based readability (determined by actual reading performance), there is a third measure of readability: subjective readability. Subjective readability matches *a priori* estimates of reading ability to objective measures of text difficulty to establish a criterion for individual readers. Subjects were 26 second, 37 third, and 48 fifth graders. All were administered the reading subtest of the *Wide Range Achievement Test* (WRAT) and a portion of the *Gilmore Oral Reading Test.* For each pupil, the WRAT score was used to divide the Gilmore passages into two sets of passages, one set subjectively easy and one set subjectively difficult. Reading and error rates were determined. Percentage rates in six categories of oral reading errors were tabulated separately for easy and difficult passages: real word substitutions, nonsense substitutions, self correction, function word errors, graphically constrained errors, and contextually constrained errors. Five variables were influenced by text difficulty at all three grades. Percentage of real word substitutions, percentage of contextually-constrained substitutions, and reading rate were greater on the easy passages than on the hard text; percentage of nonsense substitutions, and error rate were higher on the difficult passages. Except at the second grade level, there were fewer self corrections in difficult texts. At grade two, the median proportion of contextually constrained errors went from 80% in easy text to 37% in hard text; at grade three, the percentages were 63 in easy and 31 in hard; at grade five, percentages were 62 and 42, respectively.

Vande Kopple, William J. Something old, something new: Functional sentence perspective. *Research in the Teaching of English*, February 1983, *17*, 85-99.

Tests whether discourse consistent with Functional Sentence Perspective (FSP) has cognitive advantages over one with the same content but which is contradictory to FSP. FSP is a theory which states that a sentence conveys its message best if the topic (usually the subject and its adjuncts) and comment (usually the verb and objects) perform specific semantic and communicative tasks. Three brief readability and retention experiments were performed using paragraphs which were written, one following and one contradicting FSP principles. For the first experiment 72 high school sophomores and 59 seniors were told they would read two paragraphs identical in subject matter but different in form and were then to decide whether one was easier to read than the other. A total of 86 students identified the FSP paragraph as easier. In the second experiment, 73 high school sophomores and 67 seniors read the paragraphs once and then were told to judge readability. In this instance, 87 subjects rated the FSP paragraph as easier to read. For a third experiment, 118 sophomores and 66 seniors were allowed eight minutes of reading time and then asked to judge readability. This time, 121 preferred the FSP paragraph. The three retention experiments used similar age subjects and recognition, short answers, and immediate recall, respectively, as measures. Results supported FSP theory.

Weiss, David S. The effects of text segmentation on children's reading comprehension. *Discourse Processes*, January-March 1983, *6*, 77-89.

Investigated the effects of two methods of text segmentation on reading comprehension. Subjects were 648 fourth and seventh grade Canadian pupils classified as good, average, and poor readers. Three social studies passages, rated at or above-grade level in readability and classified as hard, intermediate, or easy, were segmented in two formats: 1) the pausal phrase format, segmenting where most adults would pause; and 2) the syntactic phrase format, based upon Lefevre's method of syntactic text segmentation. Comprehension was assessed with cloze tests based upon the passages and scoring used exact replacements. A standard prose format was also included as a control condition. Each pupil received all three formats in a repeated measures design that was counterbalanced for order effects. Results were analyzed for the first passage only and for the repeated passages. Analysis of variance found significant main effects for passage difficulty and pupil reading level in the expected direction. There was also a significant difference among text formats. Although comprehension scores for both the pausal and syntactic phrase formats were higher than those for the standard prose, no difference was found between the two experimental formats.

Irwin, Judith Westphal. Text structure and comprehension: New directions for readability. In Michael L. Kamil & Alden J. Moe (Eds.), *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 313-319.

Reviews research linking text-level structural characteristics with comprehensibility. Coherence of text is examined in relation to arguments in a propositional text base, grammatical relations of reference, relational density, subtopic structure, the presence of irrelevant information, and the explicitness of conjunctive concepts. Organization of a text is examined in relation to story grammars, schema theory, name and attribute forms of organization, the presence of superordinate information, and other patterns. Implications are drawn for readability theory and practice.

Chase, Clinton I. Essay test scores and reading difficulty. *Journal of Educational Measurement*, Fall 1983, *20*, 293-297.

Explores the hypothesis that essay test scores are influenced by variables other than essay content. Two alternate essays were developed in response to the question, "Define and give an example of construct validation." One essay was written at a high level of reading difficulty and one was written at a standard level of difficulty, as judged by the Flesch readability formula. Both essays, however, contained the same text base, or meaning, as determined through propositional analysis. The essays were distributed, with directions for scoring using a 10-point scale, to graduate students enrolled in three measurement courses. A one-tailed *t-test* revealed that the essay written at the standard level of reading difficulty was scored significantly higher than the essay written at a high level of difficulty.

SPRENT, N.; CRAWSHAW, M.; & BARTRAM, D. Structuring timetable information. *Ergonomics*, May 1983, *26*, 505-516.

Compares the relative merits of two timetable formats, Standard and Reflected. The Standard format is used widely and represents the route vertically; Reflected format represents the route horizontally from left to right. Two versions of each format were developed, Basic and Modified. The 168 university students employed in the study were timed as they used one timetable version and answered six questions based on it. Reflected versions resulted in shorter solution times as well as fewer errors.

SHORTRIDGE, BARBARA G.; & WELCH, ROBERT B. The effect of stimulus redundancy on the discrimination of two size on maps. *The American Cartographer*, April 1982, *9*, 69-79.

Examines the potential effect of stimulus redundancy on map reading. Subjects were 35 undergraduates enrolled in an introductory psychology class who were exposed to a series of maps each containing an array of town names and associated dot symbols. The task was to indicate whether or not two target names and adjacent dots represented towns of differing size and which was the larger. Stimuli varied in four ways: size of dot and size, boldness, and case of lettering. A total of 152 slides were presented to subjects and time and accuracy assessed. Differences on two stimulus dimensions were better than a variation in one dimension only; in some instances, differences in three dimensions were better than in two. However, a difference in four stimulus dimensions did not appear to make for better map reading.

PHILLIPS, RICHARD J. An experimental investigation of layer tints for relief maps in school atlases. *Ergonomics*, December 1982, *25*, 1143-1154.

Compares spectral and tonal layer-tint maps designed for use in secondary school world atlases. Spectral layer-tints follow the order of colors in the spectrum, and a typical sequence would be green, yellow, orange, brown, violet. Tonal layer tints vary value and chroma but hold hue constant. Two experiments are cited, the first employing 201 London comprehensive school students, ages 13 to 15, and the second using 61 students from a different comprehensive school. Four versions of a map were prepared, identical except for the layer coloring: tonal dark hills, tonal light hills, spectral bright, and spectral pale. Subjects were randomly assigned to maps and were asked six questions of information about the maps plus a question asking them to order the map colors in the best order for showing heights. The latter question was done prior to seeing the map. Experiment 2 was similar to experiment 1 but with fewer questions and two sets of maps. Results indicated that spectral maps were better for absolute height judgments, and tonal maps were better for relative height judgments. Tones should be ordered so that they darken with increasing height.

DUCHNICKY, ROBERT L.; & KOLERS, PAUL A. Readability of text scrolled on visual display terminals as a function of window size. *Human Factors*, December 1983, *25*, 683-692.

Examines readability of text scrolled (lines of text that move continuously upward on a TV screen at a rate controlled by a reader or viewer) on visual display terminals (VDTs) as a function of three different line lengths, two different character densities, and five different window heights (either 1, 2, 3, 4, or 20 lines). Ten university students participated; they were tested individually in two sessions of about an hour each, occurring at about the same time each day. All read 30 noncontiguous passages of about 300 words each. In addition, 10 questions were devised for each passage of which half were answerable and half were not answerable on the basis of information contained in the passages. All variables (length, density, and height) significantly affected reading rate, but to markedly different degrees. Lines of full and two-thirds screen width were read, on average, 25% faster than lines of one-third screen width. Text appearing at a density of 80 characters per line were read 30% faster than text in a format of 40 characters per line. Text appearing in windows four lines high was read as efficiently as text in 20-line windows, and text in one- or two-line windows was read only 9% more slowly than text in 20-line windows. Comprehension was not found to vary as a function of window size.

PYNTE, JOEL, & NOIZET, GEORGES. Optimal segmentation for sentences displayed on a video screen. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 2. New York: Plenum Press, 1980, 375-385.

Investigates the optimal segmentation for sentences displayed on a video screen in two experiments. In the first experiment, undergraduates (n = 10) silently read sentences presented in five segmentation patterns. In addition to word-by-word presentation and no segmentation, three intermediary levels were chosen according to the constituent structure of the sentences. Sentences had either one or two clauses. Subjects controlled the presentation of each section, and the disappearance of the previous one, by pressing a bar. Time taken to read each section was calculated. Optimal segmentations were either Noun Phrase + Verb Phrase, or Noun Phrase subject + verb + Noun Phrase object. In the second experiment, the length of the words constituting the stimulus sentences was varied while the syntactic structure was maintained. Subjects (n = 14) underwent the same procedures as in the first experiment. For short sentences the optimal segmentation was again Noun Phrase + Verb Phrase, but for long sentences single block presentation and word-by-word segmentation (except the articles were grouped with the nouns) provided the fastest reading times. Results are interpreted as problematic for certain models of psycholinguistic processing.

TREURNIET, WILLIAM C. Spacing of characters on a television display. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 2. New York: Plenum Press, 1980, 365-374.

Investigates the relationship between the legibility and density of text presented on a television screen. Subjects (n = 10) searched a critical line in a screen of letters for a target letter, and named the subsequent letter. Activation by a voice switch erased the display. The length of descender (0, 1, or 2 picture elements or pixels) and horizontal and vertical spacing (1, 2, or 3 pixels) were the three factors, and frequency of misses, scanning rate in characters per second, and scanning rate in pixels per second were calculated. For frequency of misses there was an effect due to horizontal spacing ($p < .05$) and to the length of descender ($p < .01$). For scanning rate in characters per second, there was an effect of vertical spacing ($p < .05$), of horizontal spacing ($p < .01$), and length of descender ($p < .01$). Similar results were obtained for scanning rate in pixels per second. On the basis of the results, a horizontal space of two pixels, a vertical space of three pixels, and a length of descenders of one pixel are recommended, suggesting that television displays should have no more than 20 lines of text per page with 40 characters per line for maximum legibility.

BELDIE, ION P.; PASTOOR, SIEGMUND; & SCHWARZ, ELMAR. Fixed versus variable letter width for televised text. *Human Factors*, June 1983, *25*, 273-277.

Investigates the efficiency of two character sets for use on television screens: variable-matrix versus fixed-matrix with serifs. The study was conducted in Germany. Unidentified subjects were asked to perform a reading task, an error identification task, and a line finding task using the two character sets. Dependent measures collected were: 1) reading time, 2) number of processed characters in error identification, 3) number of wrong comparisons in error identification, 4) total searching time in line finding, and 5) the number of target items hit in line finding. The variable-matrix character design was found to result in significantly improved efficiency in two of the three tasks. Reading time with the variable matrix character design was 6.1% shorter than with the fixed-matrix character design. In error-identification, the variable-matrix character design was also more efficient.

HATHAWAY, MICHAEL D. Variables of computer screen display and how they affect learning. *Educational Technology,* January 1984, *24*(1), 7-11.

Reviews research related to the effect of selected variables in computer screen displays and their effect on learning. Variables reviewed include the effects of fatigue, density of displayed text, scrolling, upper-case versus lower-case, letter size, and graphics. Research reviewed suggested that display text should be double-spaced and should be 80 characters per line, consisting of upper- and lower-case print. Letter height should be about 0.0070 radians. Frequent rest breaks should be incorporated into programs. Text should be scrolled approximately 20% faster than the readers' preferred scrolling rates.

SCHWARZ, ELMAR; BELDIE, ION P.; & PASTOOR, SIEGMUND. A comparison of paging and scrolling for changing screen contents by inexperienced users. *Human Factors,* June 1983, *25,* 279-282.

Compares two models of operation, paging and scrolling, to determine which is better suited for screen display with inexperienced users. Twenty subjects (no descriptive data provided) were asked to perform three different tasks with both modes of operation: word reading, line searching, and sorting. Subjects were asked which of the two modes they preferred for each operation. Completed time was analyzed for the two modes and errors compared for the line searching and sorting tasks. Paging was preferred to scrolling for the reading task, and no clear preference was found for the other two tasks. In no instance was scrolling found superior to paging. For the sorting task, scrolling resulted in a larger number of sorting errors.

PASTOOR, SIEGMUND; SCHWARZ, ELMAR; & BELDIE, ION P. The relative suitability of four dot-matrix sizes for text presentation on color television screens. *Human Factors,* June 1983, *25,* 265-272.

Checks the suitability of four dot matrix sizes (5 x 7, 7 x 9, 9 x 13, and 11 x 15) for character presentation on color television under normal viewing conditions. One rating task and five performance tasks were used: reading aloud, error identification, line-searching, information service, and sorting. Subjects were 20 individuals, ranging in age between 17 and 41. In general, qualitative performance was equally good for all matrix size. However, the amount of time required to complete the tasks varied up to more than 20%. Smallest characters resulted in the poorest performance on all tasks. The 9 x 13 character size was rated significantly better than the others and resulted in better quantitative performance.

IV-20 Studies on the reading process

MITCHELL, D.C. *The Process of Reading: A Cognitive Analysis of Fluent Reading and Learning to Read.* New York: John Wiley & Sons Ltd., 1982.

Reviews and summarizes current research and theories about processes in fluent reading, including chapters on word identification, comprehension, models of reading, and individual differences in reading. A model of fluent reading is developed and applied to the process of learning to read.

Samuels, S. Jay, & Eisenberg, Peter. A framework for understanding the reading process. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading.* New York: Academic Press, 1981, 31-67.

Examines some of the factors involved in comprehension. External factors discussed are the physical characteristics of the text and environment, readability, the content area of the text, and the goal in reading. Internal factors included are the propositional and procedural knowledge base of the reader, the reader's attention, and the reader's visual, phonological, episodic and semantic memories. The comprehension process is discussed in relation to a model of reading.

Haber, Lyn R., & Haber, Ralph Norman. Perceptual processes in reading: An analysis-by-synthesis model. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading.* New York: Academic Press, 1981, 167-200.

Outlines the redundancies available in printed language, under the headings: 1) Knowledge available from visual input, 2) Redundancy for language rules, 3) Redundancies based on word knowledge, and 4) The interaction of redundancies. Evidence for readers' use of these redundancies is cited and an analysis-by-synthesis model of perceptual processes in reading is constructed.

Calfee, Robert C., & Spector, Janet E. Separable processes in reading. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading.* New York: Academic Press, 1981, 3-29.

Reviews research to present an information-processing model of reading in which it is maintained that decoding, word meaning, and comprehension are the three separable and fundamental processes involved. Decoding and word meaning are examined extensively in relation to findings from an unpublished doctoral dissertation. The authors illustrate an approach to developing and evaluating an independent-process model of comprehension.

Lueers, Nancy M. The short circuit model of reading: A synthesis of reading theories. *Reading Psychology,* January-March 1983, *4,* 79-94.

Examines the similar assumptions and major differences among a number of reading theories and attempts to synthesize them under one conceptual framework termed the Short Circuit Model. Implications for researchers are presented.

Akinnaso, F. Niyi. On the differences between spoken and written language. *Language and Speech,* March-June 1982, *25,* 97-125.

Synthesizes findings about lexical and syntactico-semantic differences between spoken and written language. Four major topics are discussed: 1) lexical differences between spoken and written languages, 2) syntactico-semantic differences between the two modalities, 3) explanations of the surface differences between spoken and written language, and 4) major shortcomings of traditional explanations. A final section summarizes major theoretical views on how speech and language relate to prototypical forms of language and meaning and offers suggestions for future research.

Snodgrass, Joan Gay. Towards a model for picture and word processing. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language,* Vol. 2 New York: Plenum Press, 1980, 565-584.

Proposes a model to account for similarities and differences between picture and word processing. Three levels of processing are posited: low-level processing of the physical characteristics of pictures and words, an intermediate level where results of the low-level processor are related to prototypical information concerning representations of words and pictures, and deep-level processing where meaning is analyzed. The model is examined in relation to other memory models and evidence from research using semantic and episodic memory tasks is cited in support of the model.

Ruthrof, Horst. *The Reader's Construction of Narrative.* Boston, Massachusetts: Routledge & Kegan Paul Ltd., 1981.

Uses both phenomenological and structuralistic conceptions, among others, in describing what happens when we read a narrative text. In the first chapter, the author discusses modality, two sets of signifieds, concretization and deep structure transformations, and projects two poles of narrative structure: foregrounded presented words and foregrounded presentational process. A later chapter proposes a ladder of fictionality and its corresponding acts of reading in relation to the reader's typified experience of the world-out-there. Chapter 8 uses a structuralist method to indicate the interconnectedness of narrator, presented world, and implied reader. The author's theoretical presentation is far too complex and detailed to present in a brief abstract. The reader is referred to the original source.

Vázquez, Carol A. Sentence processing: Evidence against the serial, independent stage assumption. *Journal of Psycholinguistic Research*, July 1981, *10*, 363-374.

Executes two experiments testing the assumption that sentence comprehension involves a series of independent processing stages. Subjects were 8 and 16 undergraduates, respectively, in the two experiments. In Experiment 1, subjects viewed sentences and were to indicate, by pressing a response key, which of two colors would make the sentence true. Mean latencies and error rates were collected. Experiment 2 consisted of a sentence-picture verification task. Subjects were asked to verify sentences against actual dots in which the color matched or mismatched the sentence. Eight sentence types were used. Findings challenged the validity of the serial, independent stage assumption. Results were discussed in terms of a capacity sharing model.

Boekaerts, Monique. Verbal comprehension: A multi-level processing task. *Communication & Cognition*, 1982, *15*(1), 19-40.

Relies on research to support a model of verbal information processing. Described are the cognitive processes which the decoder has to perform on verbal input in order to understand the intended message. Topics addressed are: subconscious and conscious information processing, reconstructing the meaning of a message, comprehension of connected discourse, and acquiring new information. The practical implications of the research reviewed and of the model are discussed.

Curtis, Mary E., & Glaser, Robert. Reading theory and the assessment of reading achievement. *Journal of Educational Measurement*, Summer 1983, *20*, 133-147.

Summarizes recent findings in four areas of cognitive research in reading: word decoding, semantic access, sentence processing, and discourse analysis. The research is related to assessment of achievement in reading by examining the nature of the cognitive content and processes required by current testing procedures. It is concluded that 1) the heterogeneity of items on many achievement tests make it unclear what scores on those tests mean, and 2) the discrepancy between what is needed to diagnose difficulties in reading and what is provided by achievement tests makes those tests impractical for many instructional purposes.

Daneman, Meredyth; Carpenter, Patricia A.; & Just, Marcel Adam. Cognitive processes and reading skills. In Barbara A. Hutson (Ed.) *Advances in Reading/Language Research*, Volume 1. Greenwich, Connecticut: JAI Press Inc., 1982, 83-124.

Constructs an information-processing model of reading which accounts for individual differences in reading ability. Research on eye-fixation duration in reading is reviewed and a model proposed which describes normal reading and speed reading. Research on differences in word encoding and retrieval, working memory, integrative processes, and more general knowledge and strategies, is used to suggest that poor readers do not have a deficit in short-term memory capacity, but differ from good readers in processing efficiency. The interaction of text structure and individual differences is examined, and implications for instruction are drawn.

Prawat, Richard S. Relations between semantic memory and reading. In Barbara A. Hutson (Ed.) *Advances in Reading/Language Research,* Volume 1. Greenwich, Connecticut: JAI Press, Inc., 1982, 51-81.

Reviews research in the psychology of reading and in the semantic memory domain, and examines their common interests, particularly in relation to bottom-up/top-down theories of processing, the achievement of automaticity, and developmental changes in reading and memory performance.

Bradshaw, Gary L., & Anderson, John R. Elaborative encoding as an explanation of levels of processing. *Journal of Verbal Learning and Verbal Behavior,* April 1982, *21,* 165-174.

Gives results of three experiments designed to view how elaboration of memory structures affects recall accuracy and response latency. Subjects were 19, 41, and 28 undergraduates, respectively, for the three experiments. In Experiment 1, subjects saw a set of seven biographical facts for each of 28 historical figures. Each subject saw only a subset of facts, a central fact common to all, and four subsets of supportive facts. Experiments 2 and 3 were essentially similar to Experiment 1 with only slight modifications. In all experiments, recall performance for the central fact was best when it was supported by related tasks, next best when alone, and poorest when studied along with unrelated facts.

Spiro, Rand J., & Esposito, Joseph. Superficial processing of explicit inferences in text. *Discourse Processes,* October-December 1981, *4,* 313-322.

Investigates, in two experiments, the hypothesis that pragmatic inferences presented in text are taken for granted, superficially processed and not enduringly represented in memory. Subjects in the two experiments were 44 undergraduates. Stories were read that in some conditions contained information vitiating the implicational force of explicit inferences. The vitiating information was presented either before or after the inferences. In Experiment 1, subjects read all the stories and then answered the questions. In Experiment 2, subjects answered questions either immediately after each story or after reading all the stories. For Experiment 1, errors in memory for the inferences were predominant in the after condition, but not in the before condition. There were two major types of errors: saying the inference was not presented in the story or altering the inferences to produce the opposite of what was already said. The results of Experiment 2 replicated Experiment 1, and it was found that subjects do not spontaneously correct their errors.

Dempster, Frank N., & Rohwer, Jr., William D. Age differences and modality effects in immediate and final free recall. *Child Development,* February 1983, *54,* 30-41.

Investigates children's immediate and final free recall memory as a function of grade level and presentation modality. Participants were 54 children each at grade levels three, six, and nine. Three presentation modes were used (print, auditory, and pictures) to present three 21-item lists of concrete nouns. Subjects were asked to write down all the words recalled immediately after the presentation of each list and then again following the recall of the third list. For immediate recall, an age-related increase was noted regardless of presentation modality. There was no evidence found of an age-related increase in immediate memory span or in the tendency to recall final items first. However, age differences in final recall were affected by modality of presentation. Substantial age differences in retention were found with oral and picture presentations but not with print presentation. Older children were better able than were younger children to retrieve both previously recalled and previously unrecalled items.

TOYOTA, HIROSHI. Effects of sentence context on memory attributes in children. *Psychological Reports*, February 1983, *52*, 243-246.

Investigates the effect of sentence context on dominance in memory attributes. Subjects were 40 grade two and 40 grade six pupils. In each grade, two subgroups were formed, a word presentation and a sentence presentation group, approximately matched on age and sex. Four types of recognition-test lists were constructed with each 40-word list including 10 words each from four categories: to be recalled, semantic, acoutistic, and neutral. All words were written with Japanese Hirakana of three or four letters. A recognition task followed the presentation of the words to be remembered and required children to make an old/new decision for each word. The number of correct responses was greater for word presentation than for sentence presentation. For word presentation, second graders had significantly more semantic and acoustic false recognitions than neutral ones; sixth graders, significantly more semantic false recognitions than acoustic or neutral ones. Semantic false recognitions for second graders occurred more frequently than acoustic ones in sentence presentation but no differences were noted between the two types of false recognitions in word presentation. However, for sixth graders, semantic false recognitions occurred more than the acoustic ones in both word and sentence presentations. The author interprets the findings as suggesting that at second grade level the semantic processing of words is facilitated by sentence context and the semantic attribute in memory becomes more dominant than the acoustic attribute. However, grade six pupils process the words semantically even when there is no sentence context and the semantic attribute in memory becomes dominant.

WALKER, NEFF; JONES, J. PATRICK; & MAR, HARVEY H. Encoding processes and the recall of text. *Memory and Cognition*, May 1983, *11*, 275-282.

Reports the results of two experiments which investigated the effects of different amounts or types of encoding processes on recall while holding memory representations equal. In the first experiment, 24 graduate students read 30 short passages in one of three conditions: 1) direct referent contained in passage; 2) indirect referent included; or 3) no referent present. A cued recall task had subjects write down what they could recall of the last sentence of the passage. Significant effects for referent condition were found for reading speed and recall. The second experiment replicated the first but added a new variable, the distance between a word and its referent. Experimental passages contained two levels of referent (direct versus indirect) and two levels of distance (near versus far). Using analysis of variance, a significant main effect was found for referent type on reading speed. No main effects were found for recall but a significant interaction between referent type and referent distance was observed. Results are interpreted in terms of existing models of memory.

BADDELEY, A.D. Working memory and reading. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 355-370.

Investigates the possible role of short-term or working memory in reading. Previously published data are examined along with results from two new experiments. In the first experiment undergraduates (n = 18) performed a sentence verification task in three conditions: 1) prior to stimulus presentation the subject listened to a sequence of six digits which he was required to repeat during the task, 2) the subject counted repeatedly from one to six during the task, and 3) no memory load or articulation was required. Sentences were true and about a characteristic that was peculiar to the item in question (Wasps have stings), or true and characteristic of the category from which the item was taken (Wasps have legs), or false. Articulatory suppression had no effect, but the digit load task slowed performance ($p < .05$). False items were recognized more slowly than true sentences ($p < .001$). In the second experiment conditions were repeated with adult subjects ($n = 18$). Five types of sentences were presented: exemplar attribute, sub-category attribute, category attribute, sub-category, and category. A clear effect of memory load on performance was found, with no consistent influence of suppression. There was an effect for statements about category membership, but not for attributes (significance levels not reported). It is concluded that an articulatory loop, which enables verbal material to be maintained subvisually in short-term memory, may play an important role in learning to read, but is less essential for fluent reading.

FRAY, MARY JANE, & WOZNIAK, DAWN. Reading strategies in three different types of materials. *Reading Horizons*, Spring 1983, *23*, 190-193.

Focuses on three children at three different reading levels reading three different types of reading materials to ascertain the strategies employed in reading passages from a basal reader, a trade book, and a science text. Subjects included a second-grade girl, a fourth-grade boy, and a seventh-grade girl, all from the same family. One passage from each book was read orally with a miscue analysis undertaken; another passage was prepared in cloze format and read silently. The results suggested that the reading of science material was done less effectively than reading from the other two sources, particularly at the lower grade levels.

GRAF, PETER. Reading and generating normal and transformed sentences. *Canadian Journal of Psychology*, December 1981, *35*, 293-308.

Examines the relative contributions made in skilled and unskilled processing by data driven and conceptually driven processes. Three experiments were conducted with 24, 48 and 48 undergraduate students, respectively. Stimuli for experiments were six-word meaningful and anomalous sentences. Stimuli were presented on a CRT. Subjects either read the sentence orally, or were given a list of the content words of the sentence in random order and they were to generate sentences. In Experiment 2, subjects read the same anomalous and meaningful sentence, but this time presented on index cards in one of three typographies: normal orientation, rotated (upside down), or mirror transformed. Experiment 3 was the same as Experiment 2, except that subjects either read the sentences and then transformed or generated sentences as in Experiment 1. The dependent variables in all three experiments were the number of sentence subject nouns recalled in a cued recall task. Generated and transformed sentences were better recalled than normal sentences if they were meaningful, but not if the sentences were anomalous. Discusses the interactive processes involved in skilled and unskilled processing conditions.

SMITH, MARILYN C.; THEODOR, LEONARD; & FRANKLIN, PATRICIA E. The relationship between contextual facilitation and depth of processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, October 1983, *9*, 697-712.

Cites the results of two experiments investigating the linkage between two areas of investigation: 1) the effect of encoding operations on episodic recognition, and 2) the effect of a semantically relevant context on word identification. Subjects were 100 and 60 undergraduates, respectively, at a Canadian university. In Experiment 1, 20 students each were assigned to five different processing conditions: Visual analysis, Letter search, Phonemic analysis, Read, and Semantic analysis. In all conditions, subjects were presented with an 80-item list in which each item consisted of a prime word followed by either a word or a nonword target. Subjects were to decide whether the second letter string was a word or nonword. A recognition test followed completion of the 80-pair list in which subjects were to identify 20 presented words from a list of 40. Results supported the hypothesis that facilitation in the processing of a related target increases, the more deeply relevant context is processed. Episodic memory for a prime was dependent on the depth to which it had been processed, whereas memory for a target was unaffected by the depth of processing that had occurred on its prime. Episodic memory for both primes and targets was greater when they were in related pairs rather than unrelated pairs. In Experiment 2, a two-word lexical decision task was utilized in which subjects gave a "yes" response only if two simultaneously presented letter strings were both words. Different types of nonword distractors were used to vary depth of processing. Again, results indicated that priming was greater and episodic recognition was better, the deeper the level of processing that occurred in the lexical decision task. It was concluded that while similar processes modulate both episodic recognition and contextual priming effects, the underlying mechanisms are not identical.

SCHWANENFLUGEL, PAULA J., & SHOBEN, EDWARD J. Differential context effects in the comprehension of abstract and concrete verbal materials. *Journal of Experimental Psychology: Learning, Memory and Cognition*, January 1983, *9*, 82-102.

Performs three experiments attempting to test contrasting predictions of a dual-representation model and a context availability model of concreteness effects in verbal processing. Subjects were 67, 41, and 22 undergraduate students, respectively. In Experiment 1, subjects were shown 25 abstract and concrete sentences presented with and without a paragraph context. Reading time for target sentences was recoded. Reading time for abstract sentences presented in isolation was longer than for concrete sentences. With context, reading time for the two sentence types did not differ. In Experiment 2, a lexical decision task was used in which abstract and concrete lexical items were either preceded by a sentence frame or presented in isolation. Lexical decision times were measured for abstract and concrete words. When there was no context, decision times for abstract nouns were longer than for concrete nouns, but this difference disappeared when nouns were presented in sentence context. Experiment 3 was designed to ascertain if concrete materials presented in isolation would be rated as having greater context availability than abstract materials. Subjects rated sentences and words on several scales. Findings indicated that rated context availability was a good predictor of reaction time for the first two experiments. The authors argued that the results provided support for the context availability model.

GIBBS, JR., RAYMOND W. A critical examination of the contribution of literal meaning to understanding nonliteral discourse. *Text*, 1982, *2*(1-3), 9-27.

Reviews selected research on the interpretation of nonliteral discourse in order to examine three types of psychological process models concerning the role played by literal meaning. Models in which literal meaning is derived first, or in which literal and nonliteral meanings are simultaneously processed, are rejected as being unable to account for experimental data. It is argued that nonliteral discourse is first processed in terms of conventional meanings, before any literal interpretation is analyzed.

GARNER, RUTH, & ALEXANDER, PATRICIA. Strategic processing of text: An investigation of the effects on adults' question-answering performance. *Journal of Educational Research*, January/February 1982, *75*, 144-148.

Reports data from an experiment conducted with 30 undergraduates asked to read a 4,200-word article. Subjects were asked to stop and write how they were reading and preparing to answer an unspecified question about the article at four different times during the eight-page article. Subjects were categorized by mention or nonmention of a question formulation strategy as they read. Fifteen of the 30 were classified as strategy users, and had higher mean scores on identification of similarities in the article ($p < .001$). Comments at the four stopping points were analyzed qualitatively. Those not trying to formulate the question reported the following strategies while reading: focusing on detail, tying to personal ex ence, adjusting pace, reading affectively, reading for gist, reacting to structure or style, rereading, and using pictures or captions.

Hahn, Amos L., & Smith, Terrie. Students' differentiation of reader-based and text-based questions. *Journal of Educational Research*, July/August 1983, *76*, 331-334.

Observes tutor-tutee pairs to examine the number of lookbacks encouraged by the tutor, appropriate text sampling, and the use of other strategic text behaviors. Tutors were 80 fifth graders, half of whom were designated as good comprehenders and half as poor comprehenders based on the *Science Research Associates Achievement Series* test in reading. Tutees were 15 third graders who were randomly assigned to multiple tutors. Materials consisted of a 167-word expository text accompanied by three text-based and two reader-based questions. Third graders were trained prior to tutoring to respond to reader-based questions without any tutor intervention and not to respond to text-based questions until given specific comments or gestures by the tutor. Tutors were given directions on how to accomplish the task. Good comprehenders encouraged more lookbacks, samplings, and extra-text strategies compared to poor comprehenders.

Waern, Yvonne. Thinking aloud during reading: A descriptive model and its application. *Scandinavian Journal of Psychology*, 1980, *21*, 123-132.

Conducts two studies with 61 college students in order to examine the problem-solving aspect of reading. Subjects (n = 21) in Experiment 1 read a 16-sentence passage on creativity one sentence at a time. After reading each sentence orally, they were asked to express the thoughts that came into their mind while reading. From these data a model was developed that included four main operations: reading, evoking, interpreting, and comparing. A coding system based upon this model was developed and applied to a new group of subjects (n = 19) reading the same passage in the same manner as in Experiment 1, but with the instruction to apply the text to the problem of inducing constructive learning at the university. The interrater reliability of the coding system was between .86 and .92. Using the coding system, it was found that Experiment 2 subjects differed from Experiment 1 subjects in the use of the comparing and interpretating operations. The author concludes that the coding system is reliable and does reflect differences in thought processes.

Davidson, Jane L., & Triplett, DeWayne. Thematic convergence in reconstructed passages in mapping activities. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 93-98.

Investigates the nature of comprehension maps drawn after reading. College students (n = 59) participated in a Directed Reading-Thinking Activity. After reading the passage, written recalls were elicited. A mapping activity in which ideas and concepts are graphically interrelated was explained, and subjects mapped their perceptions of the passage. Maps were classified in four ways: 1) Interactive – an emphasis on interactions between, and relationships among, characters, 2) Identification – an emphasis on one character; 3) Linear – an emphasis on sequence of events; and 4) Miscellaneous – fragmentary or irrelevant elements depicted. Internal elements in the maps were classified as: A) Character relationships; B) Symbolic awareness; C) Sequence of events; and D) Ancillary characters. Percentages were 39% interactive, 32% identification, and 27% linear. A protagonist shift occurred in 14% of the maps, but in no written recalls. Character relationships occurred in 29 of 79 internal elements, symbolic awareness in 23, sequence of events in 18, and ancillary characters in 9. It is concluded that readers' organization of recalled information is selective.

CAMPBELL, ANNE. The process of comprehending. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading*, Vol. 1. *Focus on Comprehension.* Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 27-39.

Investigates strategies children use to comprehend fiction and expository prose. Ten children were randomly selected from each of the grades two, three, four, five, and six. Subjects orally read two equally difficult 300-word passages which were fictional (F) and informational (I). Miscue analysis was performed on oral reading errors. Subjects also read the passages silently in a cloze form (deletion rate and administration unspecified). Eighteen children found the F-passage more difficult to read orally, but the same children found the I-passage easier in silent reading. A comparison of responses suggested that reading strategies in oral reading and cloze appear to differ mainly in the use of graphophonic knowledge.

CAMBOURNE, BRIAN. The processing of text-book prose. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading*, Vol. 1. *Focus on Comprehension.* Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 53-67.

Reports an exploratory study into the silent reading behavior of undergraduates reading technical prose of the kind typically found in a textbook. Data relating to a group of biology students (number unspecified) are drawn from a larger study. Subjects completed a cloze task on a 1600-word passage, in which every fifth word had been deleted after the introductory sentences. Answers were scored as exact replacements, not-exact replacements, or omissions. A conversion of the percentage of exact replacements to level of comprehension indicated that it ranged between 50% and 75%. The nonexact replacements were analyzed for grammatical functioning, syntactic acceptability, semantic acceptability, and loss of meaning. Grammatical function was retained by 67.7% of the replacements, and syntactic acceptability by 82% of the replacements. Semantic acceptability of replacements was 37.4% with the whole passage, and 43.1% with the minimal syntactic unit. Meaning was not lost by 30.5% of replacements, an unimportant detail was changed by 23.1%, and an important detail by 28%.

POTTER, FRANK N. The use made of the succeeding linguistic context by good and poor readers. In L. John Chapman (Ed.) *The Reader and the Text.* London: Heinemann Educational Books Ltd., 1981, 106-114.

Investigates the differential use made by good and poor readers of preceding and succeeding context in a cloze task. Subjects ($n = 121$), aged between 7-6 and 8-9 years, were administered the *NFER English Progress Test.* A cloze passage with 20-item deletions was constructed in such a way that a crucial part of the context could be placed either before or after the deletion. Two parallel forms were prepared in which half the items were of each type. Children were required to read the passage and complete the items, with the instruction that if they wished to change an answer they should write the new answer above the old one. Responses were scored as either suitable or unsuitable. Succeeding context was harder to use than preceding context ($p < .001$). Reading ability was negatively correlated to nonuse of the succeeding context ($r = -.22$, $p < .01$). Good and poor readers did not differ on number of self-corrections. The number of words following the deletion was related to the number of self-corrections ($p < .01$) and to the number of alternative responses to the item ($p < .05$).

GREEN, D.W.; MITCHELL, D.C.; & HAMMOND, E.J. The scheduling of text integration processes in reading. *Quarterly Journal of Experimental Psychology,* November 1981, *33A*, 455-464.

Reports the results of two studies designed to explore the representation processes readers employ. In the first study, British college students were given a self-paced reading task using the materials from Bransford and Johnson (maximal and minimal context pictures). Processing time was assessed by measuring the duration of the end-of-sentence pauses. Significantly longer pauses were found for final (end-of-sentence) positions than for prefinal positions and this effect was greater in the minimal context condition. Similar procedures and instructions were used in the second study. An anomaly was embedded in the text and readers were asked to identify it. Results showed that virtually all subjects identified the anomaly suggesting that processing does occur before clause and sentence boundaries.

LAHEY, BENJAMIN B.; KUPFER, DAVID L.; BEGGS, VICKI E.; & LANDON, DOUGLAS. Do learning-disabled children exhibit peripheral deficits in selective attention? An analysis of eye movements during reading. *Journal of Abnormal Child Psychology*, March 1982, *10*, 1-10.

Compares the attending eye movements during reading of 12 fifth-grade learning disabled (LD) children with 12 grade placement controls (GC) and 12 reading level controls (RC). Determination of reading level was based on grade equivalent scores on the *Stanford Achievement Test* administered the preceding spring. Both LD and RC pupils scored within five months of 3.0 on the Stanford. RC children were in third grade. Eye movements were monitored during silent reading of two paragraphs, one at third- and one at fifth-grade level. The overall pattern of eye movements differed among groups and between reading levels of paragraphs and sexes. LD children reading at third-grade level demonstrated essentially the same eye movement patterns as did RC children. However, LD children read more slowly per line, made more and longer fixations, and were more variable in their fixation durations than the GC children. They did not differ on number of regressions and saccades from GC children. Boys showed more variable duration of fixations and made more regressions than did females.

RAYNER, KEITH; CARLSON, MARCIA; & FRAZIER, LYN. The interaction of syntax and semantics during sentence processing: Eye movements in the analysis of semantically biased sentences. *Journal of Verbal Learning and Verbal Behavior,* June 1983, *22*, 358-374.

Reports two experiments of the effects of semantic and pragmatic information on the syntactic analysis of ambiguous sentences. In the first experiment, 20 adults read a series of sentences while their eye movements were recorded. Four versions of each sentence were constructed: 1) reduced implausible; 2) reduced plausible; 3) unreduced plausible; and 4) active implausible. Dependent variables were paraphrases taken intermittently throughout the experiment, measures of reading rate, and eye movements. Significant differences were found in paraphrases, rate, and eye movements among the major sentence types. Similar procedures were used in the second experiment but with differently constructed sentences. In one group, the structurally preferred, minimal attachment was designed to be the most plausible pragmatically, while in the second group the nonminimal attachment analysis was the most plausible. Significant differences in paraphrases, rate, and eye movements were found for sentence types.

RAYNER, KEITH; SLOWIACZEK, MARIA L.; CLIFTON, JR., CHARLES; & BERTERA, JAMES H. Latency of sequential eye movements: Implications for reading. *Journal of Experimental Psychology: Human Perception and Performance*, December 1983, 9, 912-922.

Reports three eye movement experiments designed to measure saccadic latency in situations that simulated reading in its oculomotor behavior characteristics but that eliminated the encoding phenomena associated with it. Experiment 1 eliminated the possibility of a motor refractory period, Experiment 2 eliminated spatial uncertainty, and Experiment 3 eliminated temporal uncertainty. The same four adults served as subjects throughout all three experiments. The task was to fixate on a cross at the left of a cathode ray tube and then to shift fixation for a total of seven target crosses. Experiment 1 assessed the possibility of a motor refractory period by delaying one of the seven target crosses by 50 or 150 msec on some of the experiment trials. Delaying a target increased eye movement latency by the amount of the delay. As delay increased, fixation duration also increased by almost the amount of the delay, thereby suggesting a dependency of the next saccade on processes occurring after stimulus presentation. The average minimal latency was not substantially smaller in the three situations tested. It is argued that fixation duration, in reading and in the three experiments carried out, is largely controlled by information acquired during the current fixation.

RAYNER, KEITH, & POLLATSEK, ALEXANDER. Eye movement control during reading: evidence for direct control. *Quarterly Journal of Experimental Psychology*, November 1981, *33A*, 351-373.

Monitors the eye movements of six adults while reading text in a study of eye movement control. Three experiments, all using the same subjects, are reported. In Experiment 1, subjects read sentences as their eye movements were monitored. A window moved in synchrony with their eye movements across the text. Two conditions were examined: in one, the size of the window was constant from fixation to fixation, while window size was varied in the other condition. In Experiment 2, the text was delayed by presenting a visual mask upon completion of a saccade. The mask remained for 25 to 300 ms prior to the exposure of the text on each fixation. In Experiment 3, the text delay was constant from fixation to fixation but there was a condition in which text delay varied from fixation to fixation. The pattern of eye movements was influenced by the size of the window and the delay of the onset of the text, even when both window size and text delay were varying from fixation to fixation. Additionally, results suggested that saccade length was affected by window size on the prior fixation and that certain decisions to move the eye are programmed either before the fixation begins or during the fixation but without regard to the text fixated on. The authors argue for a mixed control mode of eye movements with decisions based on information from the current and prior fixations and, possibly, other sources as well.

VAUGHAN, JONATHAN. Control of fixation duration in visual search and memory search: Another look. *Journal of Experimental Psychology: Human Perception and Performance*, October 1982, *8*, 709-723.

Explores and compares two hypotheses for the effect of stimulus onset delay (SOD), process monitoring and preprogramming, in studying the relationship between cognitive processing of a stimulus and the duration of fixation. Three experiments, all using small numbers of college undergraduates, are reported. In the first experiment, the five subjects were to search between two lateral fixation points for a target letter and to report its presence as quickly as possible. If the nontarget letter appeared, the subject was to continue to scan by making a saccade to the other side. Peripheral cues were eliminated by having the search letter or mask on each side disappear only when that side was again fixated. On fixations of the nontarget letter, the time from letter onset to the next saccade was recoded. On the next fixation, the target letter was viewed and reaction time was recorded. Seven sessions of 150 trials each were used. SOD produced a decline in oculomotor latency in search. In the next two experiments, the size of the memory set was varied, or a mask flanking some of the search stimuli was used, to vary the processing time of each stimulus. Oculomotor latency increased equally at all SODs. Thus, the SODs appeared to facilitate saccade initiation.

MASSON, MICHAEL E.J. Conceptual processing of text during skimming and rapid sequential reading. *Memory and Cognition*, May 1983, *11*, 262-274.

Reports five studies exploring the difficulties associated with abbreviating the duration of eye fixations during reading. A rapid sequential visual presentation (RSVP) paradigm was used in which each word of a text is presented for as little as 86 msec at a fixed location.

In Experiment 1, text memory and comprehension were evaluated through question answering, one relevant to the general topic and the other to a specific detail. Subjects were 48 university undergraduates, half reading the passages at 375 wpm. and half at 500 wpm. Subjects read 20 passages in the skimming condition and 20 in RSVP. Advantages were found for those with the slower reading rate and the general questions. Those who had the whole passage format did better than those with RSVP. In Experiment 2, subjects were asked to provide a single topic sentence that described the main idea of the passage read. Summaries were more accurate in the skimming condition than in the RSVP condition, and more accurate summaries were produced when reading more slowly. The effects of reading format were stronger when subjects read faster. In Experiment 3, a single question was presented before each passage was read, and rates were increased to 600 wpm. and 700 wpm. Subjects who skimmed the whole passage scored higher than those reading under RSVP. Answers were more accurate in the slower reading condition. During rapid sequential reading, subjects had difficulty encoding into long-term memory sufficient text information to answer either gist or detailed questions. In Experiment 4, a pause of 600 msec was inserted between each sentence during RSVP. Intersentence pauses improved RSVP performance, although skimming led to more accurate question answering. General questions were more accurately answered than specific ones. In Experiment 5, attention was focused on two versions of rapid sequential reading, one with a pause inserted between sentences, and the other without. Pauses helped subjects process passage segments that had been buffered in working memory through predesignated questions. Performance was stronger when pauses were given between sentences.

FISHER, DENNIS F. Understanding the reading process through the use of transformed typography: PSG, CSG and automaticity. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 77-89.

Reviews research on the use of information from peripheral vision during reading to guide subsequent eye fixations. A distinction is drawn between peripheral search guidance (PSG) and cognitive search guidance (CSG) which operate interactively to speed fluent processing. PSG, CSG, and the concept of automaticity are combined in a developmental model of reading.

MCCONKIE, GEORGE W.; ZOLA, DAVID; BLANCHARD, HARRY E.; & WOLVERTON, GARY S. Perceiving words during reading: Lack of facilitation from prior peripheral exposure. *Perception & Psychophysics*, September 1982, *32*, 271-281.

Investigates the use of information from peripheral vision in reading. Undergraduates ($n = 16$) were presented with short texts on a cathode-ray tube, and letters of words in peripheral vision were changed during the subjects' saccades. Eye fixation duration showed no change for this manipulation unless the changed word was to the left of the word being fixated ($p < .001$). There was no evidence of information from prior peripheral exposure changing fixation duration.

LEVY-SCHOEN, ARIANE, & O'REGAN, KEVIN. The control of eye movements in reading. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma ([illegible].) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 7-36.

Reviews research on the characteristics of eye movements in reading as depending on the nature of the reader, the text, and the attitude of the reader to the text. Reader variables considered are development, training for fast reading, disability in reading, and the effects of fatigue and drugs. Text variables examined are graphic features, text content and organization, length of words, word sequence, and grammatical redundancy. Models of eye movement control in reading are critically examined in relation to global and local eye movement measures. Evidence is presented for the possibility of immediate control of fixation duration and almost immediate control of saccade size.

MASSON, MICHAEL E.J., & ANGELL, LINDA S. Cognitive resource demands of reading normal and transformed typography. *Canadian Journal of Psychology*, June 1983, *37*, 243-257.

Conducts two experiments requiring the reading of normal and transformed typography to note the effect on attention and processing operations while performing an auditory signal detection task. Each experiment employed 24 undergraduates as subjects. In Experiment 1, students read sets of sentences typed in normal or inverted form while monitoring a list of aurally presented digits for occasionally occurring letters. The sentences were read alone and under dual-task conditions, and subjects also performed the secondary task alone. Experiment 2 was similar except that the secondary task consisted of responding to tone sequences. Comprehension of sentences in both experiments was assessed by means of a cloze task following the reading of each sentence. Despite different secondary tasks, results on the two experiments were identical. More normal than transformed sentences were read, and the amount read did not reliably vary with reading condition. Comprehension was better on the transformed sentences. Secondary task performance was poorer when done in conjunction with reading transformed typography. The authors conclude that greater attention demands may be associated with the additional procedures worked when reading transformed typography.

LEFTON, LESTER A. Reading and searching through geometrically transformed text. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 91-96.

Investigates the role of visual periphery and textual clues in reading. Subjects were third graders, fifth graders, and undergraduates ($n = 112$ at each level) who were reading at or above grade level. Six different paragraphs were used with each group in which sentences were presented either normally or reversed in word order from right to left. Additionally, the order of the letters in words was either normal or reversed from right to left. Subjects either read the paragraphs and answered 10 comprehension questions or searched for a target word. Time taken to read and search was determined. In reading, speed increased with grade level. In the two word reversal conditions, adults were reduced to the same speed as third and fifth graders. The direction of sentences eliminated differences between third and fifth graders. The search data presented the same general pattern of results, although search was faster than reading. It is concluded that increased experience in reading makes the process of reading and peripheral information extraction more automatic.

CHEN, HSUAN-CHIH, & JUOLA, JAMES F. Dimensions of lexical coding in Chinese and English. *Memory and Cognition*, May 1982, *10*, 216-224.

Explores the roles of orthographic variation on lexical coding and memory processes for different aspects of lexical codes for Chinese logographs and English words. Differences in coding and memory representation formats were assessed by subjects' performance in graphemic, phonemic, and semantic recognition tasks. Subjects studied a word list formed from pairs of graphemically, phonemically, or semantically similar words, with one member of each pair used to decide whether it matched one of the studied words in appearance, sound or meaning. When some of the Chinese stimulus pairs were formed, graphemic and phonemic properties were purposely confounded in an attempt to match the natural confounding in English stimulus pairs. Experiment 1 determined that the pairs were graphemically similar in English and Chinese, and that the degree of sound-spelling confounding was equated in the word pairs from the two languages. In Experiment 2, 24 native Chinese and 24 native English speakers participated in three types of recognition tests to investigate dimensions of lexical coding for Chinese and English. In both immediate and 24-hour delayed test sessions, subjects had to use graphemic, phonemic, or semantic criteria to make recognition responses. Significant main effects were found for stimulus types and decision type, with effects due to the accurate graphemic decisions for Chinese. For Chinese, graphemic decisions were more accurate than both phonemic and semantic decision responses. Separate analyses on reaction time data indicated all main effects, stimulus type, time of text, and decision type, were significant. Response times for graphemic decisions were shortest for Chinese.

Baddeley, Alan; Eldridge, Marge; & Lewis, Vivien. The role of subvocalization in reading. *Quarterly Journal of Experimental Psychology,* November 1981, *33A,* 439-454.

Reports findings of three experiments exploring the role of subvocalization in fluent reading. Subjects in each experiment were adults and numbered 30, 24, and 24, respectively. In Experiment I, materials consisted of 64 semantically meaningful sentences and 32 sentences containing an anomalous word. All sentences were complex. Subjects read each sentence, and then were to classify it as semantically acceptable or unacceptable. Under a suppression condition, they were asked to count repeatedly from 1 to 6 at a rate of four digits per second. Halfway through the first sequence of digits, the sentence was exposed and the subject required to classify it as rapidly as possible. Half the sentences were processed under suppression and half under control conditions. Under suppression, speed of reading was unaffected by ability to detect anomalous words or errors of word order was impaired. In Experiment II, subjects read 18 narrative selections, five pairs of adjacent words were reversed, and subjects were to detect and circle the pairs of permuted words under three conditions: 1) suppression, in which subjects read while saying "the" to the beat of a metronome; 2) tapping in which the subjects tapped to the beat of a metronome while reading; and 3) control. There was no effect of suppression on speed of reading, but again accuracy in detecting an anomaly was impaired in the suppression condition. No differences in accuracy were noted between the control and tapping conditions. In Experiment III, subjects were asked to circle pairs of permuted words in 20 selections, presented in one of four conditions: 1) silent; 2) suppression alone (Same as in Experiment II); 3) noise alone (subjects listened to taped words while reading but were told not to attend to them); and 4) noise/suppression. Again, suppression conditions led to a decrement in the ability to detect errors, but the noise condition did not. Speed was not impaired in any of the conditions, although there was a tendency for selections to be read more slowly under noise conditions than under non-noise conditions. Results of all three experiments thus showed that preventing subjects from subvocalizing impairs the ability to detect anomalous sentences.

Shwedel, Allan M. Must we use phonology to read? What Chinese can tell us. *Journal of Reading,* May 1983, *26,* 707-713.

Explores the role that phonological recoding plays in the reading process. Subjects were 30 university students proficient at reading both Chinese and English and 15 Chinese workers who could read only Chinese. Each subject was given a recall task on one of three possible lists of Chinese characters: 1) visually similar, 2) sound similar, and 3) a control list that was neither similar visually or in sound. Findings revealed that the subjects who could read English had done worse on the sound similar (homonym) task, while no interference was evident for those who could read only Chinese characters. There was no evidence of visual interference for either group of subjects. The author concluded that skilled readers of Chinese were more likely to use phonological codes, rather than visual codes, in storing information in short-term memory, while less skilled readers were as likely to use either strategy.

Rossmeissl, Paul G., & Theios, John. Identification and pronunciation effects in a verbal reaction time task for words, pseudowords, and letters. *Memory and Cognition,* September 1982, *10,* 443-450.

Reports two experiments investigating whether the established faster reading and pronunciation of words other than orthographically regular pseudowords is due to faster identification or to faster programming and execution of the motor response. In the first experiment, 12 adults (8 female, 4 male) pronounced monosyllabic words, pseudowords or letters in three conditions. In Condition 1, the stimuli were presented singly two seconds after the previous response. In Condition 2, three stimuli were presented simultaneously, and an arrow indicated the target after a delay sufficient for decoding. In Condition 3, a single stimulus was presented in a manner similar to Condition 2. There were 1,008 trials in each Condition. The reaction time was found to be different for stimulus type and response condition ($p < .001$) and their interaction ($p < .005$). Words were not pronounced faster than letters, but were pronounced faster than pseudowords. In the second experiment the subjects and conditions were the same as in Experiment 1. Stimuli were words, pseudowords and unpronounceable anagrams, and the task was to name the first letter of each target string. It took longer for subjects to name the first letter of an anagram than of a word ($p < .01$) or of a pseudoword ($p < .01$), but there was no difference between the latter two stimulus types. Results are interpreted as support for theories of reading where letters of words are processed in parallel, where there is a direct access and retrieval of phonological memory codes for the names of words, and where pseudowords are pronounced by a grapheme/phoneme transformation.

CAMPBELL, RUTH, & BESNER, DEREK. This and thap—Contraints on the pronunciation of new, written words. *Quarterly Journal of Experimental Psychology*, November 1981, *33A*, 375-396.

Reports four experiments investigating readers' pronunciation of unfamiliar words. In the first experiment, adult subjects (n = 34) read aloud 24 nonwords beginning with 'th', half in a list of 32 nonwords, and half in 20 sentences each containing one nonword. Pronunciations of the 'th' nonwords in each condition were compared for the voiced and unvoiced form. The voiced form was used 15.2% in lists, and 65.9% in sentences. In the second experiment, adult subjects (n = 40) read one of four lists of 21 sentences, each containing one nonword. Nine target sentences contained nonwords beginning with 'th.' These nonwords occupied either function word slots or content word slots, and was of the form th-vowel-voiced consonant or th-vowel-unvoiced consonant. In content word positions 'th' was generally unvoiced; in function word positions it was usually voiced ($p < .01$). Voicing of the final consonant had no effect on the pronunciation of the 'th.' In the third experiment, adult subjects (n = 20) read a list of function words and a list of content words. Three 'th' nonwords occurred towards the end of each list. In all lists subjects' pronunciation of 'th' was unvoiced. In the fourth experiment, adult subjects (n = 14) read 12 meaningless sentences containing a 'th' nonword in a content or function word position and other nonwords. In content word positions more 'th' nonwords were unvoiced than voiced, but in function word positions no differences occurred. It is concluded that the findings are inconsistent with a dual process theory of routes from print to sound.

MCCUTCHEN, DEBORAH, & PERFETTI, CHARLES A. The visual tongue-twister effect: Phonological activation in silent reading. *Journal of Verbal Learning and Verbal Behavior*, December 1982, *21*, 672-687.

Reports two experiments investigating the activation of phonological information during silent reading. In the first experiment, 36 undergraduates read aloud six sets of 32 sentences in a sentence verification task. Sentences either repeated word-initial bilabial consonants, or word-initial alveolar consonants, or were neutral. Further, the sentences were either long or short, and either made sense or did not. Vocalizations were scored for fluency, and analyses done on both latencies and a combined score (fluency/latency). Tongue-twisters required more time to verify than neutral sentences ($p < .001$). Several other significant results are reported. In the second experiment, 48 undergraduates were administered bilabial, alveolar, and velar tongue-twisters under similar conditions. Significant results are reported. Most important, there was no specific interference between concurrent vocalization and the reading task, suggesting that automatically activated phonetic representations are not subvocal motor programs.

Frith, Uta. Reading by eye and writing by ear. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 379-390.

Reports several experiments investigating the role of sound in reading and writing. In the first experiment, 10 skilled readers read lists of words half of which contained words with *e* either stressed or unstressed in beginning, middle, or end positions, and performed a letter cancellation task. Unstressed *e*s were missed more in the end position. In a second experiment, eight subjects were asked to complete 60 words with stressed and unstressed *e*s in the last syllable when presented with letters preceding the critical *e*. More words with unstressed *e*s were completed correctly. In a third experiment, seven-year-olds ($n = 13$) and skilled adult subjects ($n = 8$) were presented with stories where the text was normal, correctly spelled but in a variety of scripts, had letters substituted that were visually similar, or graphemes substituted that were phonologically similar. Both groups were alike in patterns of performance on time taken to read the selections orally. Text that sounded correct was harder to read than text that looked correct ($p < .05$). In a fourth experiment, groups of 12-year-olds of average intelligence were compared on the *Schonell Graded Word Lists*. Good readers/good spellers ($n = 10$) and good readers/poor spellers ($n = 10$) made more phonetic spelling errors than poor readers/poor spellers ($n = 9$). When asked to read their spellings, the second group had more difficulty reading their misspellings compared to their correct spellings ($p < .02$), as did they third group ($p < .01$). When compared on a rhyming task, the second group was less proficient than the first ($p < .05$) and comparable to the third group in performance. It is suggested that sound plays a primary role in writing, but a secondary role in reading.

Frith, Uta. Unexpected spelling problems. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 495-515.

Investigates the relationship between reading and spelling by examining spelling strategies of good readers who are poor spellers. Subjects were 12-year-olds in three categories: A) good readers/good spellers ($n = 10$); B) good readers/poor spellers ($n = 10$); and C) poor readers/poor spellers ($n = 9$) determined by scores on the *Schonell Graded Word Lists*. Group B produced more phonetic errors ($p < .01$) and fewer nonphonetic errors ($p < .01$) than Group C. On a retest, Group B was also more consistent than Group C in their misspellings. Subjects were asked to spell 20 dictated nonsense words. Responses were classified as phonetic and nonphonetic. Group A differed from Group B ($p < .01$) and from Group C ($p < .01$) in making more phonetic responses. The groups also performed a series of tasks investigating reading with partial cues, and proofreading for spelling errors. It is concluded that good readers/poor spellers spell differently from other poor spellers by placing greater reliance on a phonological strategy, and that this strategy is also used more by them in reading than by comparable good readers who are also good spellers.

Barron, Roderick W. Visual and phonological strategies in reading and spelling. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 195-213.

Reports two experiments investigating the visual and phonological strategies used by good and poor readers. In the first experiment, 24 good and 24 poor readers were selected from 156 sixth graders on the basis of the *Gates MacGinitie Reading Test* and matched for IQ on the *Canadian Lorge-Thorndike Intelligence Test*. The sum of the single letter and bigram positional frequency values was calculated for each of 60 regular and 60 irregular words. Regularity was defined as conformity to spelling-to-sound correspondence rules. The words and corresponding nonwords with the same letter and bigram positional frequency were presented to the subjects in a lexical decision task. Good readers were faster on regular than irregular words ($p < .05$), and poor readers were faster on the high than the low single letter and bigram positional frequency words ($p < .005$). In the second experiment, 24 good and 24 poor readers were selected from 70 fourth, fifth, and sixth graders, on the basis of their speed and accuracy in pronouncing four lists of six nonsense words. The two groups did not differ in IQ. A list of 10 regular and 10 irregular words was administered to each subject. After hearing each word the child completed a 15-second copying task and then wrote the word. At the end of each list each subject read the correctly spelled words aloud. Only words correctly pronounced were used in the spelling error classification into four mutually exclusive categories: listening errors, omission, other, and phonologically accurate errors. In this last category both good and poor readers made fewer errors on regular than irregular words ($p < .01$), but poor readers made more errors than good readers on irregular words ($p < .001$).

COHEN, GILLIAN. Reading and searching for spelling errors. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 135-155.

Reports three experiments investigating the role of phonological coding in the reading process. In the first experiment, adult subjects ($n = 40$) were assigned to four groups matched for reading speed. Each group read a 500-word passage in one of four forms for comprehension and error detection. Thirty words in the passage were replaced by either real word homophones, real word nonhomophones, compatible pseudohomophones, or incompatible pseudohomophones. Mean reading time for each version differed from each of the others ($p < .05$). There was no speed-error trade-off. In the second experiment, 500-word texts in normal or scrambled form were presented with 30 compatible pseudohomophone errors or 30 similar pronounceable nonhomophone errors. Subjects ($n = 16$) read one text in each condition for error detection and comprehension, where appropriate. Pseudohomophones were more quickly detected in unscrambled text ($p < .05$) and nonhomophones in scrambled text ($p < .05$). In the third experiment, subjects ($n = 18$) read 24 incomplete sentences presented tachistoscopically. The final word which was then exposed was either correct, a homophone, or an orthographically similar real word. Reaction time was determined for the decision as to whether the word was the correct completion. No difference was found for homophone or nonhomophone words. It is concluded that readers select strategies according to task demands.

BRYANT, PETER E., & BRADLEY, LYNETTE. Why children sometimes write words which they do not read. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 355-370.

Reports two experiments investigating strategies children use in reading and spelling. In the first experiment, 62 backward readers aged about 10.5 years, and 30 normal readers, aged about 7 years with a reading age of 7.5 (test unspecified), were given 18 words to read on one occasion and spell on another. They majority of children in both groups spelled at least one word they could not read, but the higher the reading level in both groups, and the higher the age in the normal group, the less likely the children were to spell words and not to read them. There was evidence of more use of a phonological strategy in spelling than reading. In the second experiment, normal readers, aged 6.5-7 years and 7-7.5 years ($n = 20$), read and spelled 30 words. Similar results were obtained. Children in the younger group who had spelled some words but not read them ($n = 24$) were also given words they had spelled but not read, and neither read nor spelled in two conditions. The words were embedded in a list of nonsense words, to force a phonological strategy, and in a list of easy meaningful words. In the nonsense condition the children read more of the words they had previously spelled but not read, than in the meaningful condition.

SEYMOUR, PHILIP H.K., & PORPODAS, CONSTANTINOS D. Lexical and nonlexical processing of spelling in dyslexia. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 443-473.

Reports a series of experiments investigating the lexical and nonlexical processing of spelling in normal and dyslexic subjects. Subjects were four dyslexic children, aged between 8-7 and 9-10 years, two dyslexic adults, and eight 7-year-old and eight 9-year-old normal readers. A series of tasks was completed in the areas of graphemic comparisons, orthographic regularity effects, grapheme-phoneme and phoneme-grapheme translations, the presence of a lexical effect in word naming, the naming of irregularly spelled words, and directional coding in spelling. Results are interpreted as evidence for a two-channel mode of reading and spelling processes emphasizing a distinction between lexical and non-lexical processes, rather than between visual and auditory or spatial and linguistic cognitive functions.

Barron, Jonathan; Treiman, Rebecca; Wilf, Jennifer F.; & Kellman, Philip. Spelling and reading by rules. In Uta Frith (Ed.) *Cognitive Processes in Spelling*. New York: Academic Press, 1980, 159-194.

Describes a series of experiments examining differences between adult subjects who were good at using spelling-sound rules to produce and recognize the correct spelling of words ($8 \leq n \leq 17$), and subjects who were not ($8 \leq n \leq 13$). The groups did not differ consistently in measures of speech mediation in reading, nor in the tendency to use rules in an artificial rule learning task. They differed on a test of free classification of syllables ($p < .005$) and a speeded test of judging whether two words contained an identical segment ($p < .025$), which were both measures of the ability to recognize common sound segments in different words.

Campbell, Ruth. Writing nonwords to dictation. *Brain and Language*, May 1983, *19*, 153-178.

Investigates an auditory lexical decision task. In the first of three experiments, 20 undergraduate psychology students listened to a list of words and nonwords and were asked to write down all nonwords as accurately as possible. Words were pronounced from one of two lists, each containing the same 22 target nonwords. Immediately preceding each target nonword was a word which rhymed with it but the spelling of each such prime differed in each list. Overall 65% of responses were spelled like the primes. In Experiment 2, the effect of interpolating a word or nonword between the prime and the target was studied. Subjects were seven undergraduates in each of four list groups. Evidence supported the conclusion that lexical priming was occurring even with a filler between prime and target. In Experiment 3, a male suffering from surface dyslexia served as the subject. A surface dyslexic is characterized with the following reading problems: 1) cannot read irregularly spelled words reliably, 2) cannot correctly discriminate homophonic spelling of words, 3) often confuses the irregularly spelled words with the regular pronunciation of such words, and 4) the reading of regularly spelled words and of nonwords is not always perfect. The subject performed Experiment 1. In contrast to normal subjects, his spelling failed to show any effects of lexical priming for nonword spelling. Only 27% of his nonword spellings resembled the spelling of the primes on the first and 31% on the second list. The authors argue that the results support a lexical parsing model of reading and of spelling rather than a traditional dual-process model

Treiman, Rebecca, & Baron, Jonathan. Individual differences in spelling: The Phoenician-Chinese distinction. *Topics in Learning and Learning Disabilities*, October 1983, *3*, 33-40.

Discusses the processes that children and adults use to spell and read individual words. Research is cited. The authors state that two kinds of processes may be used, one involving spelling-sound rules and one involving word-specific associations. Individuals range along a continuum with regard to their reliance on rules relative to word-specific associations. At one end are those who rely on spelling-sound rules, and, at the opposite, those who rely on word-specific associations. The former group can spell and read unfamiliar words but have difficulty with exception words which they tend to treat as if they were regular. The latter cannot spell and read novel words well. The authors conclude that attempts to teach reading and spelling without emphasizing rules will produce no real progress. Special attention may be needed for children who speak nonstandard dialects. For standard dialect speakers, the solution would appear to be some form of spelling reform.

Smith, Philip T.; Baker, Robert G.; & Groat, Anne. Spelling as a source of information about children's linguistic knowledge. *British Journal of Psychology*, August 1982, *73*, 339-350.

Compares the results of two studies previously published by the authors which were conducted separately with seven-year-old children and adults. Both studies investigated the ability to assign stress appropriately to two-syllable nonsense words embedded in otherwise normal sentences. The children had either been taught to read in traditional orthography (t.o.) or recently transferred from the initial teaching alphabet (i.t.a.). Comparisons were made in terms of the syntactic category of the word, the phonemic structure of the final syllable, the number of final consonants, and spelling (the presence or absence of final 'e'). All main effects were significant ($p < .01$) and several interactions. Superficial phonemic and syntactic distinctions influenced all groups' performance. The t.o. children showed no effect of final 'e', but showed less tendency to put first syllable stress on a verb ending in two consonants rather than one. The i.t.a. children differed from t.o. children in reduced syllable stress for final 'e' spellings of nouns ending in two consonants and for verbs ending in one consonant ($p < .025$), and gave more three-syllable pronunciations ($p < .025$). Results are interpreted as showing that young children lack a heterogeneous lexicon typical of adults in which different classes of words are subject to different rules, and that children taught to read with i.t.a. use different print-to-sound conversion rules.

Perin, Dolores. Phonemic segmentation and spelling. *British Journal of Psychology*, February 1983, *74*, 129-144.

Designs two tasks to assess skill in phonemic segmentation and contrasts the abilities of good readers/spellers (A), poor readers/spellers (C), and good readers/poor spellers (B) on these tasks. Two experiments are reported. In Experiment 1, subjects were required to reverse initial phonemes of words; in Experiment 2. The task was to judge the number of phonemic segments in real and nonsense words and then to spell the words. The three groups of subjects were fourth-formers (aged 14 and 15) from four inner London comprehensive schools. Group placement was made on the basis of an adaptation of the *SPAR* test for reading and 40 words from the *Schonell Spelling Test*. In Experiment 1, the task was found to be strongly related to spelling rather than reading skill. In Experiment 2, Group A subjects judged constituent phonemes of the number of words better than either Groups B or C. Spelling error patterns of the two poor speller groups was similar and were linked to their segmentation performance. However, poor spellers appeared to employ strategies similar to those of good spellers, using spelling knowledge as a guide in their efforts to segment phonemically.

Jackson, Nancy Ewald, & Myers, Mary Gjerness. Letter naming time, digit span, and precocious reading achievement. *Intelligence*, July-September 1982, *6*, 311-329.

Studies two samples of intellectually advanced preschool age children ($n = 24$ and 17). Sample 1 ranged in age from 45 to 66 months at the beginning of the study; Sample 2 ranged in age from 37 to 58 months. At the time of initial testing, Sample 1 children had been participating for at least one academic year in a program which included letter identification, phonics, and language experience activities. Sample 2 children were tested in the fall just after many had started their first year of preschool. Both groups participated in two initial and two follow-up letter naming sessions, with about a sixth-month period between them. The Reading Recognition subtest of the *Peabody Individual Achievement Test* (PIAT), used to assess reading achievement, was administered within two months of the initial letter naming sessions and again within two months of the follow-up sessions. Children in Sample 1 also received an assessment battery including the WPPSI Block Design, the WPPSI Mazes, the short form of the *Stanford-Binet Intelligence Scale*, and the Numerical Memory subtest of the *McCarthy Scales of Children's Abilities*. Correlation coefficients between CA and PIAT scores were minimal. The best predictors of PIAT scores were letter naming time (r = -.39), backward digit span (r = .48), and forward digit span (r = .47). Additional analysis provided support for the existence of a moderate relationship between letter naming time and PIAT scores.

CRAGO, MAUREEN, & CRAGO, HUGH. *Prelude to Literacy: A Preschool Child's Encounter with Picture and Story.* Carbondale, Illinois: Southern Illinois University Press, 1983.

Details the responses to books of one girl over a four-year period, from age one to five. A verbatim account was maintained in diary form of the authors' daughter's reactions to over 400 books both while they were read to her and also as she referred to them in other situations. The first part of the book contains the diary records for six books over time, one every six-month period. As books were reread to her, responses to it continued to be recorded. The second part of the book gives evidence of her processing and use of the books outside of the reading sessions. Part three consists of the child's overall growth and development in such areas as picture preferences, humor; understanding of animism, anthropomorphism, and magic; and her grasp of story conventions. The girl's responses were shaped by both the mediating adults and the books themselves; patterns of response which were established early remained substantially unchanged. The authors note that the belief that children respond most readily to what they already know can become a self-fulfilling prophecy. They also conclude that their daughter's response to a new book and an adult's response differ primarily in the degree to which they are expressed rather than in the degree to which they are experienced.

BISSEX, GLENDA L. *GNYS At WRK: A Child Learns to Read and Spell.* Cambridge, Mass.: Harvard University Press, 1980.

Traces the reading and spelling development of the author's son from the age of 4 to 10 years. The case study examines the child's writing and reading and their interaction in relation to developmental theories, using numerous examples collected from the boy's efforts at home and at school during this period. Educational implications are discussed.

BESNER, DEREK; DANIELS, SHONA, & SLADE, CHRISTINE. Idiogram reading and right hemisphere language. *British Journal of Psychology,* February 1982, *73,* 21-28.

Gives results of two experiments examining visual field advantage in reading ideographs. In Experiment 1, 16 British undergraduate students viewed tachistoscopically shown numerals presented to the left or right visual field and were asked for a written recall. Numerals were three different sizes. There was an overall right visual field advantage. In Experiment 2, 8 Oriental undergraduates at a British university saw the Arabic and Kanji numerals 4-9 inclusive, presented in mixed order to either left or right visual field and orally reported their responses. A right field advantage was again obtained. After reviewing the literature, the authors conclude that the current laterality literature on normal subjects does not aid in answering the question of whether alphabetic, ideographic, and syllabic scripts are read by dissociable processing mechanisms.

BIRNBAUM, JUNE CANNELL. The reading and composing behavior of selected fourth- and seventh-grade students. *Research in the Teaching of English,* October 1982, *16,* 241-260.

Explores the reading and writing behaviors of eight good readers and writers to identify patterns that might be characteristic of both processes, to identify academic and nonacademic influences that might be associated with reading and writing proficiency, and to see if there are developmental differences in age. Subjects were either fourth graders or seventh graders. Each was videotaped six times while reading and composing. Texts were scored holistically and rated for function. Subjects were also audiotaped while reading aloud and while composing aloud. They were also observed for 35 hours in classes or other school settings. Subjects kept reading logs, and saved all texts they composed. Subjects, parents, and teachers were also interviewed. Those more proficient did more self monitoring and reflecting, pausing and sampling alternatives. They recognized alternative explanations and the limitations of their own points of view. Retellings and responses were more contextualized, more detailed, and more coherent. They frequently formed a plan for their writing. They viewed themselves as good readers and writers. They were aware of the many uses and styles of composition, and writing was personally meaningful.

OLSON, GARY M.; MACK, ROBERT L.; & DUFFY, SUSAN. Cognitive aspects of genre. *Poetics*, June 1981, *10*, 283-315.

Describes the general conventions governing writer communication and analyzes the application of these conventions to the reading of stories and essays by mature readers. All subjects in the experiment were paid college students. The materials read were four stories (18 to 52 sentences), two considered well-formed, two considered ill-formed; and two essays (22 and 37 sentences). All materials were presented to the subjects one sentence at a time. Some subjects, called the talking out loud group, talked about a variety of things after reading each sentence (e.g., inferences, elaborations, corrections to previous sentences, predictions, and comments). The remaining subjects, called the reading time group, read a sentence at a computer terminal and then pressed a key to obtain the next sentence. The primary data for this group were the times devoted to each sentence. Subjects in both groups read the same essays and stories. Story readers were found to have an essentially prospective orientation, generating predictions and predicting what was ahead. Readers of essays, however, approached the sentence-by-sentence processing more retrospectively, fitting the current sentence in with earlier information that had been presented in the text.

SPILICH, GEORGE J. Life-span components of text processing: Structural and procedural differences. *Journal of Verbal Learning and Verbal Behavior*, April 1983, *22*, 231-244.

Attempts to examine both age- and pathology-related differences in processing of text. Free recall and recognition tasks were used in assessing differences in both encoding and retrieval processes. Subjects were 16 undergraduates (young), 16 elderly-normal (mean age, 81.07), and 16 elderly-impaired (mean age, 82.47). Distinction between normal and cognitively impaired elderly was made on the basis of the *Wechsler Memory Scale* (WMS), with individuals scoring 50 or below classified as impaired and those scoring above 50 classified as normal. Nursing staff in the residential facility from which all elderly subjects were drawn rated the impaired group as significantly more senile on a five-point scale than the normal group. Subjects read one of two stories aloud and then took the free recall and recognition tests. The young group recalled significantly more than did the elderly-impaired. When recalls were qualitatively analyzed for additions, comments, and errors, differences for the first two categories were non-significant among groups. However, the young group made more factual errors than did either of the two elderly groups. The young correctly recognized more sentences from the text than did the elderly-impaired. Analysis of both recall and recognition data suggested that for the elderly-normal group, there was a change in cognitive operations which were more quantitative than qualitative; for the elderly-impaired group; a large qualitative change seemed to have occurred.

IV-21 Comprehension research

Carver, Ronald P. *Reading Comprehension and Rauding Theory.* Springfield, Illinois: Charles C. Thomas, 1981.

Defines and describes rauding and the rauding process. Cites research supporting rauding theory. Criticisms of rauding theory are rebutted. Implications for both instruction and research are presented.

Clark, Milton L. Measuring comprehension: In search of structure. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading,* Vol. 1. *Focus on Comprehension.* Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 93-111.

Reviews Australian research on measuring reading comprehension in the light of theoretical models derived from other research. Models for measuring reading comprehension are examined and their contributions from Australian research reviewed under the headings: 1) Is reading comprehension a unidimensional activity?; 2) Hierarchical structure; and 3) Decoding, syntactic, lexical, comprehension, and inferential skill. It is concluded that although the Australian studies reviewed sought a fine-grained differentiation of comprehension skills, this was not substantiated.

Elkins, John. Meaning metaphor, and mathematics: A nice knock-down argument about content area reading skills. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading,* Vol. 1. *Focus on Comprehension.* Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 41-51.

Reviews selected research concerning reading in the content areas. Areas considered include metaphor, reading mathematics, reading and learning, the difficulty of text, the literate bias of schooling, and metacognitive aspects of reading in content areas. It is argued that teachers should be aware not only of the psychological aspects, but of the sociocultural context of reading.

Flood, James. Prose comprehension: A selected review of literature on inference-generation as a requisite for understanding text. In Dennis F. Fisher and Charles W. Peters (Eds.) *Comprehension and the Competent Reader: Inter-Specialty Perspectives.* New York: Praeger Publishers, 1981, 51-68.

Reviews selected literature related to inference-generation necessary for understanding written text. Topics covered include definitions of inference, the cognitive aspects of inferencing, types of inferences competent readers generate, methods of eliciting inferences, propositional analysis systems, and story grammar.

Mathews, Samuel R., & Camperell, Kaybeth. Comprehension research and diagnosis: Beyond single dependent measures. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 54-59.

Reviews selected research in comprehension in relation to the measures used for assessment. Techniques discussed include free recall, probed recall, recognition memory, eye movements, reading time, and response latency. It is argued that the researcher and the diagnostician need to utilize more than one measure to identify variables affecting comprehension.

Meyer, Bonnie J.F. Basic research on prose comprehension: A critical review. In Dennis F. Fisher & Charles W. Peters (Eds.) *Comprehension and the Competent Reader: Inter-Specialty Perspectives.* New York: Praeger Publishers, 1981, 8-35.

Reviews research on prose reading comprehension. The author identifies nine variables that have been shown to affect prose comprehension and presents a scheme for grouping these variables for review and analysis. The premise of the scheme is that reading comprehension is a conversation between the author and the reader. There are three major components of the scheme: text variables (including the variables of content, structure, and emphasis), reader variables (including the variables of world knowledge, inferencing ability, perspective, purpose, skill level and processing style), and writing variables (the degree to which the writing takes into account the reader variables).

Pace, Ann Jaffe. Analyzing and describing the structure of text. In David H. Jonassen (Ed.) *The Technology of Text: Principles for Structuring, Designing and Displaying Text.* Englewood Cliffs, N.J.: Educational Technology Publications, 1982, 15-27.

Reviews research on the analysis and description of prose passages, including propositional analysis and cohesion in text. Implications are drawn from the review for the design of instructional texts.

Paris, Scott G.; Oka, Evelyn R.; & DeBritto, Ann Marie. Beyond decoding: Synthesis of research on reading comprehension. *Educational Leadership,* October 1983, *41*(2), 78-83.

Highlights and synthesizes the research on two major factors underlying the development of strategic reading: children's knowledge about factors that affect reading and children's control over reading strategies. Children's knowledge is categorized and discussed under three types: 1) declarative, or knowing that; 2) procedural, or knowing how; and 3) conditional, or knowing when. Research findings, summarized by the authors, suggest that beginning readers and poor readers have little knowledge about various reading strategies and tend to focus on decoding and literal interpretation. Instruction can aid comprehension by helping children become more aware of factors which influence effective reading. Positive attitudes toward reading increase achievement and willingness to learn.

Reder, Lynne. A short survey of the research on text and story comprehension and retention. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 131-153.

Reviews research on text and story comprehension and retention. Major areas examined are: investigations of factors that affect amount of recall; representations of text structure; and use of word knowledge to aid comprehension. It is concluded that differences among readers reflect, in part, differential propensities to elaborate; that certain questions asked in the appropriate position can influence memory for certain facts; and that prior knowledge, and inherent interest in the subject matter, and orienting instructions can also affect retention and comprehension.

Royer, James M., & Cunningham, Donald J. On the theory and measurement of reading comprehension. *Contemporary Educational Psychology,* July 1981, *6,* 187-216.

Reviews recent developments in the theory of comprehension and derives implications from this review for the measurement of reading comprehension. Suggests that reading comprehension is an interaction between the reader's knowledge and the author's message. Concludes that most existing reading tests are unsatisfactory for the purposes of measuring educational gain or diagnosing reading difficulty. Suggests techniques that might be more suitable for these purposes.

SHEBILSKE, WAYNE L. Structuring an internal representation of text: A basis of literacy. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 2. New York: Plenum Press, 1980, 227-239.

Reviews selected research on reading comprehension and reports in general terms the results of a project by the author and others which explores the interrelationships among variables in the reading process including perceived structure of text and the quality of comprehension. It is argued that the ability of a reader to build an internal structure representation of text is an important basis of literacy.

WADE, BARRIE, & DEWHIRST, WENDY. Reading comprehension revisited. *Educational Research*, November 1983, *25*, 171-176.

Reviews models of the reading process and reading comprehension as identified with specific individuals and also views comprehension as defined by standardized tests, other formal assessment measures, and informal assessments. Selected research is cited.

TIERNEY, ROBERT J., & BRIDGE, CONNIE. Inference and reading comprehension: Theory, research and practice. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading*, Vol. 1. *Focus on Comprehension*. Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 113-127.

Discusses theory and research related to discourse processing and reports a study examining the discourse processing operations of children. Thirty-six third-grade pupils, 18 fluent and 18 non-fluent readers, were asked to read two passages orally and retell all they could recall. Responses were classified as explicit or inferred information and compared to the text. Data analysis showed that nearly all pupils recalled more explicit information than inferred information, but the relationship between the two types of information recalled varied with reading ability and type of recall (free versus probed). Additional propositional analyses of pupils' recalls were conducted.

WITTROCK, MERLIN C. Reading comprehension. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading*. New York: Academic Press, 1981, 229-259.

Reviews and summarizes research in reading comprehension in the areas of attention, encoding, and memory. A generative model of reading comprehension is constructed which accounts for the facilitation that is obtained when procedures are used that emphasize attention to the text and to the construction of verbal or imaginal elaborations. The predictions of the model are outlined and related to findings from research.

STAHL, STEVEN. Differential word knowledge and reading comprehension. *Journal of Reading Behavior*, 1983, *15*(14), 33-50.

Examines the effects of two vocabulary treatments on the reading comprehension of average fifth-grade readers. Three passages were generated from the Dale-O'Rourke list and the Dale-Chall list. Six questions were developed to assess passage comprehension. Other posttest measures included a sentence anomaly test, a sentence cloze test, and a multiple-choice synonym test. Each group received all three treatments (definitional, definitional and contextual, and control) in counterbalanced order for a three-week period, 10 words each day. Each lesson lasted approximately 15 minutes, with the passage comprehension and anomaly posttests on the fifth day of each training week. Two weeks after training subjects took the cloze and multiple-choice tests. A 3 x 3 factorial design using repeated measures analysis of variance suggested that neither treatment nor order was significant for passage comprehension but the interaction was. Treatment effects were significant on the sentence anomaly test, the sentence cloze test, and the multiple-choice test. The group by treatment interaction on the multiple-choice test was also significant. Both treatments had a significant effect on comprehension and vocabulary learning, and a mixed method of definitional and contextual information produced higher comprehension scores than a definitional method alone.

GLYNN, SHAWN M.; OKUN, MORRIS A.; MUTH, K. DENISE; & BRITTON, BRUCE K. Adults' text recall: An examination of the age-deficit hypothesis. *Journal of Reading Behavior,* 1983, *15*,(1), 31-41.

Studies the text recall of 108 adult paid volunteers ranging in age from 18 to 56, with years of formal education ranging from 12 to 20. Vocabulary was assessed with the *Quick Word Test.* Strategy variables were scores on the synthesis-analysis and elaborative-processing scales of the *Inventory of Learning Processes.* Two texts used in another study were adapted for the present study. Number of propositions recalled was the dependent variable. Adults recalled an average of 44 of the 59 propositions. Their vocabulary scores and their synthesis-analysis scores correlated positively with their total recall of text information. Ages correlated negatively with total recall but positively with vocabulary. Education correlated positively with vocabulary, synthesis-analysis, and elaborative-processing scores. Synthesis-analysis scores correlated positively with elaborative-processing scores. Vocabulary scores, synthesis-analysis scores, and ages were entered into a regression equation applied to total recall scores. Vocabulary accounted for about 10% of the variance. Synthesis-analysis scores increased the variance to 14% (nonsignificant), and chronological age increased the variance to 25% (significant). Vocabulary was responsible for increasing the amount of variance accounted for by age.

FREEBODY, PETER, & ANDERSON, RICHARD C. Effects on text comprehension of differing proportions and locations of difficult vocabulary. *Journal of Reading Behavior,* 1983, *15*(3), 19-39.

Reports two studies which examined the effects of vocabulary difficulty on reading comprehension. In the first study, 79 sixth graders were asked to read three social studies passages: 1) an easy passage composed of high frequency words; 2) a passage in which low frequency, or difficult words, were substituted at the rate of one in six substance words, and 3) a passage with a one in three substitution rate. Three dependent measures were collected: 1) free written recall; 2) a short written summary; and 3) a true/false sentence recognition task. A significant effect for vocabulary difficulty was found only for the sentence recognition task. In the second study, the placement of the difficult vocabulary was manipulated. A sample of 71 sixth graders read three social studies passages: 1) an easy passage with high frequency words; 2) a "difficult-unimportant" passage in which vocabulary substitutions were made in low important propositions; and 3) a "difficult-important" version with substitutions in highly important propositions. Dependent variables remained the same as the first study. The effects of vocabulary difficulty on free recall were unclear and involved a number of interactions. Pupils wrote more adult-like summaries when difficult words were placed in unimportant propositions. The effects on sentence recognition were mixed.

MEZYNSKI, KAREN. Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. *Review of Educational Research,* Summer 1983, *53,* 253-279.

Reviews eight studies exploring the effects of increases in vocabulary knowledge on reading comprehension. Methodological and instruction differences across studies are explored in an effort to account for their differing results. Findings of the eight studies suggest that it is not difficult to increase word knowledge, but there was disagreement as to the impact on comprehension. The lack of effects on comprehension may have been due to methodological problems. Those problems are discussed and conclusions regarding effective instruction are drawn. These conclusions relate to: 1) amount of practice given to the words, 2) breadth of training in the use of the word, and 3) the degree to which active processing is encouraged. It is felt that automaticity of access may be particularly important for successful comprehension.

Hood, Joyce, & Dubert, Lee Ann. Decoding as a component of reading comprehension among secondary students. *Journal of Reading Behavior,* 1983, *15*(4), 51-61.

Explores whether decoding ability makes an independent contribution to the prediction of reading comprehension performance for ninth-grade students and determines what proportion of these students can be identified as having specific decoding deficiencies. Of the 410 total group, 338 were from a suburban community and 72 from a rural setting. Subjects took the *Iowa Tests of Educational Development* Vocabulary test (ITED-V) following standard procedures. They then took an alternate prompted form (Prompted-V) where they listened to each word and marked answers as the tape was played. Eighth grade scores were also available on the *Gates-MacGinitie Reading Tests*, Level E, and a maze test on a ninth-grade American History text. Additionally, the composite reading comprehension score on the ITED was available. Coefficients of correlation between Prompted-V scores and ITED reading comprehension scores were determined first, and then the ITED-V scores were entered into the multiple regression equation. Coefficients for the Prompted-V and the ITED comprehension were .735 and .821 for the suburban and rural schools. Adding the ITED-V scores to the prediction equation yielded multiple correlation coefficients of .821 and .855 for the two schools. Students whose ITED-V scores were at least five standard points below their Prompted-V scores were defined as being less able to decode. There were 13% of suburban students and 8% of rural students who exhibited such a discrepancy. Subsequent analyses with pairs of good and poor decoders suggested that comprehension of poor decoders was significantly below that of good decoders who showed no discrepancy between their Prompted-V and ITED-V scores. Poor decoders also had a greater range in comprehension scores.

Lomax, Richard G. Applying structural modeling to some component processes of reading comprehension development. *Journal of Experimental Education*, Fall 1983, *52*, 33-40.

Hypothesizes a causal model of the component processes of reading comprehension development and attempts to evaluate it. In the study, 101 children, ages 6 to 11, who had been assigned to learning disability (LD) classrooms, were used as subjects. Children were administered the word reading test of the *Wide Range Achievement Test* (WRAT) for the word recognition component of the model; the *Comprehensive Tests of Basic Skills* (CTBS) for the reading comprehension component; and various subtests of the *Diagnostic Reading Scales* (DRS) for phonological, word recognition, reading rate, and reading comprehension components. A correlation matrix of indicator variables was then used in a computer program to test the hypothesized component processes model. A best fitting model of reading comprehension was determined. The major implication of the fitted model was that the development of phonological skills has a strong and direct causal influence on the attainment of word recognition skills, and these in turn have a causal influence on the development of reading comprehension. However, no direct causal influence of phonological skill development on reading comprehension was found. No evidence was noted for the existence of a direct causal relationship between rate and comprehension. There was some support for a reciprocal relationship between word recognition skills and reading rate.

TABOSSI, PATRIZIA. Sentential context and the interpretation of unambiguous words. *Quarterly Journal of Experimental Psychology*, February 1982, *34A*, 79-90.

Reports two experiments which investigated how linguistic context facilitates the interpretation of unambiguous words. In the first experiment, adults read a series of sentences and answered a yes/no question pertaining to the meaning of a target noun after each sentence. In one condition subjects were primed by sentences which as a whole cued the answer to the question. In a second condition the verb and selectional restrictions were manipulated to cue the answer. Number of correct responses and response latencies served as dependent variables. Although shorter latencies were found for primed questions, no significant main effects were observed. Similar procedures were followed for the second experiment except that four conditions were incorporated: 1) no priming; 2) priming by means of the verb; 3) priming by the adjective; and 4) priming by the verb and the adjective. As in the first experiment, neither syntactic position of the target noun nor any interactions were significant.

FREEBODY, PETER, & ANDERSON, RICHARD C. Effects of vocabulary difficulty, text cohesion, and schema availability on reading comprehension. *Reading Research Quarterly*, Spring 1983, *18*, 277-294.

Assesses the effects of text cohesion and schema availability on children's comprehension of social studies passages which varied in vocabulary difficulty. Data for the first of the two experiments reported were collected from 75 sixth graders. Six versions of each of three passages were developed, involving three levels of cohesion and two levels of vocabulary difficulty. Subjects were randomly assigned to passages and after reading each passage, completed three tasks: 1) recall the passage, 2) write a brief summary of the main ideas, and 3) complete a 13-sentence verification task. No interactions between vocabulary difficulty and cohesion were noted, although main effects for vocabulary were found. Participants in Experiment 2 were 88 sixth grade pupils. Topic familiarity and vocabulary difficulty were varied in the passages these children were asked to read. Significant main effects were found for familiarity and vocabulary difficulty. It is noted that the two experiments failed to support expectations based on an interactive theory of reading.

JOHNSON, WALTER, & KIERAS, DAVID. Representation-saving effects of prior knowledge in memory for simple technical prose. *Memory and Cognition*, September 1983, *11*, 456-466.

Studies the effects of prior knowledge upon comprehension and memory of simple technical prose. Three conditions were studied: self-paced, in which subjects studied each sentence as long as they wished; forced-pace, with study time held at a predetermined level for each subject; and incidental, in which subjects were not told that the passages were to be recalled later. The 92 undergraduate subjects first took a knowledge test, rated each sentence for prior knowledge, and then processed four short passages in one of the three conditions. Sentences in each passage were displayed one at a time. A cued-recall test followed each condition. The effects of prior knowledge were stronger in the incidental condition, although the average level of recall was lower than in the other conditions. In the self-paced condition, unfamiliar material was studied longer than familiar material, but subjects recalled at the same level regardless of familiarity. In the other two conditions, familiarity predicted recall.

JOHNSON, PATRICIA. Effects on reading comprehension of building background knowledge. *TESOL Quarterly*, December 1982, *16*, 503-516.

Designs a study to obtain information on the effects of prior experience and exposure to difficult vocabulary words on the reading comprehension of English as a second language (ESL) readers. Subjects consisted of 72 university students representing 23 nationalities and enrolled in advanced level reading classes. They were given a five paragraph long passage to read in which three paragraphs were assumed to treat of familiar aspects of Halloween, and two paragraphs dealt with unfamiliar material on the same topic. Subjects in each of six classes were randomly assigned to one of four testing conditions: 1) reading without a vocabulary list, 2) studying vocabulary definitions prior to reading, 3) reading with the target terms glossed in the passage, and 4) studying terms before reading with the target words glossed in the passage. Written recalls were collected and a recognition test also given. Two weeks after treatment, a vocabulary cloze test on the passage was administered. Analysis of passage recalls and of sentence recognition indicated that prior cultural experience affected comprehension of ESL students. Exposure to meanings of vocabulary words did not effect comprehension.

LIPSON, MARJORIE YOUMANS. Learning new information from text: The role of prior knowledge and reading ability. *Journal of Reading Behavior,* 1982, *14*(3), 243-261.

Studies the relationship between prior knowledge and children's comprehension of eight expository passages. Subjects were 28 third-grade pupils of average and below average reading ability. A pretest session assessed the children's prior knowledge of the expository topics to be presented in the second session. A week later, pupils read the passages, performed an intervening task, and then selected the best answer for each of six paired sentences. Subjects recognized more explicit than inferential information ($p < .01$). Readability level interacted with question type, although performance varied for question type, explicit and inferential. Subjects' prior knowledge of topics was significantly different from one passage to another ($p < .01$). Subjects were most likely to get a correct answer at posttesting when pretesting answers had been correct. Subjects were more likely to get an item correct at posttesting when they did not know the information at pretesting than if they had been wrong at pretesting.

CARRELL, PATRICIA L. Three components of background knowledge in reading comprehension. *Language Learning,* June 1983, *33*, 183-208.

Investigates the effects of three separate components of background knowledge, context, transparency, and familiarity, on the reading comprehension of three groups of undergraduate students: 48 native speakers of English, 66 advanced learners of English as a second language, and 42 high intermediate learners of English as a second language. ESL speakers represented a number of different language backgrounds, with a plurality of them being Malaysians. Subjects were randomly assigned to one of four conditions: context-transparent, context-opaque, no context-transparent, and no context-opaque. Each read two text passages, one familiar and one novel. Text passages were adaptations of Bransford and Johnson's *Washing Clothes* and *Balloon Serenade* texts of approximately 100 words. Booklets were distributed to students in their regular classroom groups and written instructions were amplified. Subjects were allowed as much time as needed on a page, but could not look back once a page had been turned. They were instructed to read a passage only once. They then rated the passage's comprehensibility on a 1-7 scale and wrote down as much as they could recall. Recall protocols were scored against an a priori list of idea units by two independent judges. Interjudge reliability on Pearson Product-Moment Correlation was .94. ESL groups tended to rate their comprehensibility as high or higher than native speakers. However, in recall, ESL groups fell behind native speakers, with the advanced ESL group scoring higher than the high-intermediate group. While native speakers used all three components of background knowledge in reading, understanding, and recalling a text, nonnatives showed little use of background knowledge, although familiarity emerged as a significant component for the advanced ESL group on recall.

Graves, Michael F.; Cooke, Cheryl L.; & Laberge, Michael J. Effects of previewing difficult short stories on low ability junior high school students' comprehension, recall, and attitudes. *Reading Research Quarterly,* Spring 1983, *18,* 262-276.

Reports the results of two studies investigating the effects of giving low ability seventh and eighth graders detailed previews of short stories they were assigned to read. In Experiment 1, subjects were 32 eighth graders from an inner-city junior high. Materials were four short stories, each introduced with a preview of questions and statements. In addition, subjects were given a synopsis of the story, and characters were repeated, along with something to help identify them. Three or four words were defined as part of the preview. Following reading, subjects completed multiple choice questions. Six were factual and answered in the preview, six were factual but not in the preview, and two were inferential and not answered in the preview. Students who received the previews produced more correct responses for all three types of questions. Experiment 2 used 40 seventh-grade subjects. Materials included two short stories, previews for each, an attitude survey, an oral recall or short-answer comprehension questions, and open-ended attitude questions. Attitudes assessed both feelings about the stories and feelings about the usefulness of previews; each subject received a preview for one of the stories, but not the other. Pupils recalled more than twice as many propositions when they received a preview as when they did not. They also did better on short-answer questions.

Tonjes, Marian J. Using advance organizers to enhance the processing of texts. In L. John Chapman (Ed.) *The Reader and the Text.* London: Heinemann Educational Books Ltd., 1981, 131-140.

Investigates the effect of two types of pre-instructional strategies on the short-term learning and retention of text. Undergraduates (n = 30) were randomly assigned to two experimental groups and a control group (C). All groups read a 2,500-word expository description, which was beyond the 17th grade level. One experimental group (AO) received an advance organizer, while the other (SQ) was given an explanation of the survey and question steps of SQ3R. A 19-item test of literal comprehension was administered immediately after and three days after the passage was read. The AO group scored higher than the control group on immediate ($p < .05$) and delayed ($p < .01$) recall. A high mortality rate in the SQ group prevented further analysis.

Bean, Thomas W. The effect of a structured overview on university students' comprehension. *Western College Reading Association Journal,* Fall 1981, *1*(1), 2-3.

Explores the degree to which a prereading structured overview facilitates the short- and long-term comprehension of 143 freshman and sophomore university students enrolled in a reading improvement course. Students were classified as average (N = 40) or below-average (N = 103) readers based on scores on the *Diagnostic Reading Test.* Subjects were assigned randomly to either structured overview (N = 65) or control (N = 78) groups. Both groups read the same article, with the experimental group receiving a teacher-guided discussion of major concepts and the relationships prior to the reading. After reading, a 10-item multiple-choice test was administered, followed by an alternate form of the test one week later. The structured overview was found to be generally effective for both levels of readers on short-term comprehension but not on long-term comprehension.

Langer, Judith A. Relation between levels of prior knowledge and the organization of recall. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 28-33.

Investigates the effects of prior knowledge on text recall. Subjects were 36 high school seniors who were fluent readers. Students were asked to free associate in writing with stimulus content words selected from two passages they then read and recalled. Three content words from the top half of each passage were administered one at a time. Levels of prior knowledge assigned to the free association responses were categorized based on pilot study findings. The passages and the scoring of the protocols were based on previous research. Correlation coefficients were significant for levels of prior knowledge and recall ($p < .05$), and for levels of prior knowledge and content word recall ($p < .001$). Significant coefficients to, and among, recall of other text variables are also reported.

HAHN, AMOS L. Metacognition: I know but do you? *Illinois Reading Council Journal*, Fall 1983, *11*(2), 27-31.

Reviews briefly some of the research in metacognition and reading under three categories: interview studies, error detection task studies, and alternative methodologies.

HARE, VICTORIA CHOU, & SMITH, DOUGLAS C. Reading to remember: Studies of metacognitive reading skills in elementary school-aged children. *Journal of Educational Research*, January/February 1982, *75*, 157-164.

Explores self-reporting methodologies, retrospection and protocol analysis, in naturalistic reading settings. Study 1 determined whether 29 good- and poor-reading sixth graders differed in their monitoring and memory strategies on narrative and expository texts. The number of pupils' retrospections about reading strategies correlated positively and significantly with reading achievement, and was more pronounced for the expository text. Rereading was the most frequently mentioned strategy. Study 2 eliminated retrospection in favor of protocol-analysis. Twenty-one seventh-graders read either narrative or expository text, pausing at marked points to tell what was happening in the material and what they were thinking about as they read. Then subjects were asked about their use of six specific strategies. Pupils' numbers of used strategies increased from Study 1, but patterns were similar. Rereading and imaging were the most frequent patterns for narrative passages and rereading and changing speeds for expository. No differences on number of strategies were found between expository and narrative passages. Negative coefficients were found between strategies on exposition and reading achievement and strategies on narration and recall. Experimenter-cued strategies did not correlate significantly and positively with reading performance measures.

ALVERMANN, DONNA E., & RATEKIN, NED H. Metacognitive knowledge about reading proficiency: Its relation to study strategies and task demands. *Journal of Reading Behavior*, 1982, *14*(3), 231-241.

Studies the effect of metacognitive variables on comprehension. One hundred seventh and eighth grade average readers were assigned to one of four groups based on their self-perception of performance (high versus low) on essay or multiple-choice tests. In individual sessions pupils were told to prepare for the test appropriate for the group to which they were assigned, read and study one of two folk tales, then complete the appropriate test. A follow-up interview sought to determine the strategies the pupil had used while reading. An analysis of variance found that high self-perceivers performed significantly better than low self-perceivers on the essay test and on a free recall, even when actual reading ability was controlled. Similar differences were found on the multiple-choice test. The strategy "rereading" was the only one that yielded a significant difference between the test groups, with students taking the essay test employing this strategy more frequently. The strategy "read carefully/slowly" was reported by significantly more low perceivers on both types of tests.

MIZE, JOHN M. The relationship between reading performance and awareness of comprehension of textbook passages. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 34-37.

Investigates whether reading ability is related to a reader's awareness of whether he is comprehending a text passage as he reads. Seventh graders (n = 144) were asked to read two passages, with a readability level of high sixth grade. Comprehension of each text was assessed by 14 multiple-choice questions. Subjects were asked to predict how many questions they would answer correctly prior to reading (the confidence index), and after reading each text (index of general judgment). For each question, children were asked to judge whether they had answered the item correctly (index of specific judgment). While answering the questions, half the pupils could refer to the passage, and half could not. Reading ability was assessed by the *Iowa Test of Basic Skills*. The number of correct responses, reading ability, and the passage condition were all predictors of the index of specific judgment ($p < .05$). Reading ability, the number of correct responses, and the confidence index were all predictors of the index of general judgment ($p < .05$). It is concluded that immediate performance is a better predictor of awareness of comprehending than overall reading ability.

REARDON, RICHARD, & KATZ, Stuart. Comprehending ambiguity in the sentence-verification paradigm: Basic process of problem solving? *Bulletin of the Psychonomic Society*, September 1983, *21*, 373-376.

Conducts a study to determine whether and how subject awareness of ambiguity affects response latency and error. Materials were 20 lexically ambiguous sentences paired with a second sentence which disambiguated it. In 10 of these, the second sentence gave an unexpected meaning. Additionally, there were 20 unambiguous sentences, each paired with a second sentence that did or did not follow from it. Sentence pairs were ambiguous-expected (AE), ambiguous-unexpected (AU), unambiguous-expected (UE), and unambiguous-unexpected (UU). Subjects were 28 undergraduate psychology students who were asked to read each pair of sentences and then react to whether or not the second sentence followed from the first. Students were then given a list of all the ambiguous sentences followed by two paraphrases of each and were asked to circle the first meaning that came to mind when reading the ambiguous sentence. The response circled was assumed to be the expected meaning. Error rate for AU pairs was about 50%, whereas the error rates for the other pair types ranged from 4% to 11%. AU latencies were significantly longer than AE latencies. Latencies for AE sentence pairs were low across trial blocks, while latencies for AU sentence pairs were higher in Trial Blocks 1 and 2 but not in Trial Block 3. The AU type showed a decline first in errors and then in latencies. The data are interpreted as supporting a conscious strategy on the part of subjects.

WONG, BERNICE Y.L., & JONES, WAYNE. Increasing metacomprehension in learning disabled and normally achieving students through self-questioning training. *Learning Disability Quarterly*, Summer 1982, *5*, 228-240.

Uses a self-questioning technique to foster comprehension skills in 60 learning disabled (LD) eighth and ninth graders and assesses the results. Additionally, 60 normally achieving grade six pupils were included in the study. Criteria for inclusion as LD were adequate intelligence as determined by the WISC-R, reading retardation three to four years below grade level on the *Nelson Reading Skills Test*, no sensory or physical handicaps, and no clinical/psychiatric record of emotional disturbances. Prior to the actual study, all subjects completed preparatory training on knowledge of main idea until a criterion level was attained. Half of the children were assigned randomly to a five-step self-questioning procedure applied to short passages selected from published materials. Training occurred on two days. Control subjects were given the same materials but were told to read them for the quality of the writing. For testing, both groups were randomly divided into Prediction and No-Prediction conditions. Prediction subjects were to underline parts of test passages that they felt were so important that they would be placed on a comprehension test. No-Prediction subjects simply read the passages to judge the quality of the writing. All subjects were asked for written recalls. Training increased LD subjects' awareness of important units as well as their ability to formulate good questions on those units. Comprehension performance of trained LD children was also enhanced. Trained sixth-graders' performance did not differ in comprehension or metacomprehension performance from that of sixth grade controls.

RICHGELS, DONALD J. Schema theory, linguistic theory, and representations of reading comprehension. *Journal of Educational Research,* September/October 1982, *76,* 54-62.

Describes and evaluates three models of comprehension according to their relevance to education. Two fields contributing to theories of comprehension, schema theory and linguistic theory, are first briefly described and their research underpinnings noted. Applications for reading educators are briefly discussed.

GOETZ, ERNEST T.; SCHALLERT, DIANE L.; REYNOLDS, RALPH E.; & RADIN, DEAN I. Reading in perspective: What real cops and pretend burglars look for in a story. *Journal of Educational Psychology,* August 1983, *75,* 500-510.

Tests two hypotheses of how schemata function to enhance learning and recall of prose material: selective attention and slot filling. Subjects in the two experiments included policemen enrolled in a summer training institute (n = 16, 37), students enrolled in a real estate class in a community college, (n = 20, 35), and undergraduates in an introductory educational psychology class (n = 19, 34). Experiment 1 assessed the effect of natural and assigned perspectives on importance ratings for sentences in a passage. Subjects were asked to rate the relative importance of the 66 sentences in the story after being randomly assigned to one of three perspectives. Text elements relevant to assigned perspectives were rated more important than other sentences. In Experiment 2, the text was presented by computer and reading times were recorded. Presentation was subject-paced. Again subjects were assigned to one of three perspective conditions, the third being no specified perspective. Recall was solicited. Readers spent more time on those portions of the text relevant to their assigned perspective, regardless of their background. Subjects also tended to recall more information related to their assigned perspective.

FURNISS, ELAINE R. Schemas for reading texts differing in organization: A study of sixth grade proficient readers. In Thelma Bessell-Browne, Ross Lathem, Noelene Reeves, & Elizabeth Gardiner (Eds.) *Reading into the 80s'.* Adelaide: Australian Reading Association, 1980, 11-23.

Studies good sixth grade readers to note if they use different processes when recalling texts differing in structure. The experimental population was drawn from 140 pupils who scored 77th percentile or better on the Reading Subtests of the *Stanford Achievement Test.* Children were asked to read and recall two of four texts differing by content and structure. Recall was again assessed one week later. Additionally, children were interviewed for the strategies they employed. The experimental text structures were Story Narrative and Descriptive Informational. More information was recalled from texts written in a Story Narrative structure than in a Descriptive Informational structure. There were different patterns of recall depending on text structure. Children approached a Story Narrative text with a story schema but did not have an available set of expectations for organizing Descriptive Informational text.

BARNITZ, JOHN G., & MORGAN, ARGIRO L. Aspects of schemata and syntax in fifth grade children's inferential reading comprehension of causal relations. *Reading Psychology,* July-December 1983, *4,* 337-348.

Assesses the separate and combined effects on inferential comprehension, of clause order and passage content. A factorial design was used with two levels of the semantic variable (congruent versus incongruent with childhood experiences) crossed with two levels of syntactic order (cause-effect versus effect-cause). This design yielded four types of passages: 1) easy content with cause-effect; 2) easy with effect-cause; 3) hard with cause-effect, and 4) hard with effect-cause. The dependent variable, inferential comprehension, was assessed through wh-type interrogatives designed specifically to elicit the inference pertaining to each target structure. Subjects were 75 average and above-average fifth graders. Analysis of variance found a significant main effect for semantic difficulty, with pupils scoring higher on the semantically easy (congruent) passages. Although no significant difference was found for syntactic order, comprehension tended to be higher for cause-effect order than effect-cause order. The interaction between syntax order and schemata was not significant.

PALMER, REBECCA J.; SLATER, WAYNE H.; & GRAVES, MICHAEL F. The effect of passage difficulty on good and poor readers' use of author's schema in written recall protocols. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 38-41.

Investigates the extent to which good and poor readers use the author's schema in organizing written recall protocols. Subjects were ninth graders divided into high (n = 10), average (n = 10), and low (n = 8) ability readers on the basis of the *Gates-MacGinitie Reading Tests.* Passages from previous research were used in original form and in an easier rewritten form. The original passages were at college level difficulty, and the rewritten versions at 8th-10th grade and 5th-7th grade readability levels. Each subject read both passages, one in the original version and one in rewritten form, and then recalled as much as they could in writing. Good readers followed the author's schema more frequently than poor readers (p< .001). Passage difficulty did not affect use of author's schema. Use of the schema led to greater recall (p< .001). Reading ability affected amount recalled (p< .001), but text difficulty did not.

BENTON, STEPHEN L.; GLOVER, JOHN A.; & MONKOWSKI, PAUL G. Employing review procedures in elaboration of prose schemata. *Psychological Reports,* February 1983, *52,* 167-170.

Attempts to compare the effects of a post-adjunct questioning technique, a post-interactive questioning technique, and a control condition on recall of prose by 42 undergraduates. Students were randomly assigned to one of three conditions: review questions subsequent to reading, interactive review questions subsequent to reading, and control. All subjects read the same passage for 10 minutes and completed an immediate and a one-week delayed free recall task. Results showed significant interactions for groups, time, and their interaction in logical intrusions produced. Findings suggested that review procedures resulted in more elaborate schemata and better recall.

FASS, Warren, & SCHUMACHER, GARY M. Schema theory and prose retention: Boundary conditions for encoding and retrieval effects. *Discourse Processes,* January-March 1981, *4,* 17-26.

Examines the effects of switching readers' perspective about stories on immediate and delayed recall. Subjects were 210 undergraduates. Subjects read one passage containing information relevant for both burglars and home buyers. Before reading, subjects were given a burglar, home buyer or no encoding perspective. At the recall test, subjects were given a retrieval perspective of home buyer or burglar. Recall was immediate or 24 hour delayed. Both encoding and retrieval perspectives significantly affected immediate recall, but only the encoding perspective affected delayed recall. Results are discussed in terms of the encoding specificity principle.

BELLEZZA, FRANCIS S. Recalling script-based text: The role of selective processing and schematic cues. *Bulletin of the Psychonomic Society*, July 1983, *21*, 267-270.

Investigates the novel-object effect in the recall of material. Subjects were 24 undergraduate volunteers who were presented with 10 script-based passages, each consisting of 12 events. Two passages were presented intact; in some, an object, person, or place was replaced by a novel value; in others, some of the script events were replaced by events irrelevant to the script. Subjects read passages one sentence at a time on a video monitor, then were presented with the titles of the middle eight passages and asked to write as many of the sentences as possible for each title. After this recall task, subjects again viewed the passages and were asked to rate on a 6-point scale the likelihood that each event could be part of the story. For each subject, the following means were computed: mean proportion recalled of typical script events, of typical events containing a novel object, and of irrelevant events. Mean study times, mean decision times, and mean typicality ratings were also determined. Typical script events were studied for a shorter period than were events containing a novel object or the irrelevant events. Irrelevant events were recalled more poorly than the other two. No differences were noted between recall of typical events and typical events containing a novel object. Mean decision time for typical script events was significantly shorter than for the other two.

KIERAS, DAVID E. The role of major referents and sentence topics in the construction of passage microstructure. *Discourse Processes*, January-March 1981, *4*, 1-15.

Reports two experiments that examine the nature of global coherence in technical passages. The subjects in both experiments were paid college students. Subjects were asked to state the topic of the presented passages by typing into a computer terminal or writing a noun phrase that designated a single object. In experiment 1, the passages had either one topic or three topics. In experiment 2, the passages had either two topics or four topics. In the two topic passages, each sentence of the passage referred to both topics, but the surface subject of each sentence was always one or the other of the two topics. In the four topic passages, each topic was presented in each passage but with controlled variation in frequency and how early in the passage they appeared. Dependent variables were the topic reported in the noun phrase and the time to read the passage. The results of the first experiment indicated that three topic passages took longer to read than one topic passages and that identifying the correct topic was more difficult in three topic passages. The second experiment indicated that the surface subject of the sentence significantly influenced the determination of the perceived passage topic.

BROOKS, LARRY W., & DANSEREAU, DONALD F. Effects of structural schema training and text organization on expository prose processing. *Journal of Educational Psychology*, December 1983, *75*, 811-820.

Reports two experiments to assess the effectiveness of training students in the use of a structural schema as a text processing aid. Experiment 1 tested whether structural schema training improves processing and recall of scientific text. Experiment 2 investigated the effectiveness of using a structural schema to organize a prose passage. The schema employed grew out of a survey of 30 students, each required to list the important categories of information relevant to understanding a scientific theory. Six categories included: description, inventory/history, consequences, evidence, other theories, and x-tra information, an open category for information that did not fit the other five categories (DICEOX). In Experiment 1, 14 students received six hours of instruction over a two-week period in the use of structural schemata as learning aids, while 17 served as controls receiving support strategies such as time management and relaxation techniques. Students memorized the DICEOX schema, organized their notes according to the schema, and used the schema as an aid while taking tests over the material. A free-recall test was administered five days later. Recalls were analyzed as to how they matched the DICEOX protocol organization. Results supported the hypothesis that DI-

CEOX training facilitates prose recall. Experiment 2 compared training-control differences on text organized according to DICEOX categories or organized to vary as much as possible from the DICEOX schema. Experimental subjects failed to freely recall a significantly greater number of the main ideas or details from the passage than did the controls, but did recall a greater proportion of the text under the schema-cued recall condition than did the controls.

BRITTON, BRUCE K.; GRAESSER, ARTHUR C.; GLYNN, SHAWN M.; HAMILTON, TOM; & PENLAND, MARGARET. Use of cognitive capacity in reading: Effects of some content features of text. *Discourse Processes*, January-March 1983, *6*, 39-57.

Reports a series of six experiments which examined the effects content features of text had on the cognitive capacity used while reading. All subjects were undergraduates and numbers ranged from 10 to 30 in the six experiments. Three content features (narration, exposition, and personal versus impersonal) were manipulated using different passages and different reading levels. Cognitive capacity was assessed by using a secondary task technique (reaction times to unrelated, unpredictable probes). The main finding was that reaction times to secondary prose were longer while reading narrative texts than while reading expository texts, suggesting that cognitive capacity was filled more completely in the narrative condition.

LOVELACE, TERRY, & HAASE, ANN MARIE. Textual constraints affecting adults' free recall. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 114-116.

Investigates the variables affecting adults' long-term memory for the exact wording of text. Adult male ($n = 11$) and female ($n = 61$) subjects, aged from 20 to 88, and holding a high school, college, or graduate degree read three expository passages from the *Ekwall Reading Inventory.* Readability of the passages was assessed at eighth grade level on the *Harris-Jacobson Readability Formula.* Subjects were directed to read in one of three ways, and on completion of the reading performed one of two 25-minute distractor tasks. Protocols were scored on the basis of memory for exact wording. No significant differences are reported for passage, direction, or type of distractor. Younger subjects recalled more exact words than older subjects ($p < .05$), and holders of graduate degrees recalled more exact words than high school degree recipients ($p < .05$).

HIEBERT, ELFRIEDA; ENGLERT, CAROL SUE; & BRENNAN, SHARON. Awareness of text structure in recognition and production of expository discourse. *Journal of Reading Behavior,* 1983, *15*(4), 63-79.

Investigates college student's awareness of text structures. A multivariate analysis of variance consisting of two levels of student reading ability (high versus low) and four types of text structure (sequence, enumeration, comparison-contrast, description) with repeated measures was used. High or low reading ability was determined by performance on the *Degrees of Reading Power Test* with 26 students placed into each group. The undergraduate education majors then completed both a 12-item reading measure and a 12-item writing measure. On the reading measure, they had to infer the text structure based upon two opening sentences and then recognize sentences congruent with the structure. The writing measure was similar but required production of sentences congruent with text structure. Significant main effects for ability and text structure were found as well as a significant text structure by ability interaction. Follow-up univariate analyses were conducted. The correlation coefficient between the total scores on the reading and writing measures was significant ($r = .35$, $p < .01$).

Meyer, Bonnie J.F., & Rice, G. Elizabeth. The interaction of reader strategies and the organization of text. *Text*, 1982, *2*(1-3), 155-192.

Proposes a model for reader/text interaction in arriving at an identification of the overall logical organization to be used by the reader in processing and remembering the text. Five versions of a passage were written to test the effect on organization in readers' recall protocols. The passages were used with over 500 adults. Detailed data analyses are presented elsewhere, but generalizations from the findings are given. Readers who do not have the prerequisite prior knowledge or strategies often have difficulty even when explicit cues are provided. Readers' prior knowledge about texts' organizational plan interacts with the signals in particular text and lead readers to expect a certain organization for text. Different emphasis patterns in writing resulted in different organization patterns and types of information recalled by readers.

Taylor, Barbara M., & Samuels, S. Jay. Children's use of text structure in the recall of expository material. *American Educational Research Journal*, Winter 1983, *20*, 517-528.

Explores the role of text structure in the recall of expository text for 14 fifth-grade and 36 sixth-grade pupils. All pupils were identified as reading at grade level or above by teacher judgment and test scores. Pupils were given a practice passage and asked for a written recall. Three recall protocols were used to identify those pupils who were aware of or unaware of text organization. Pupils were given sets of test passages to read and recall, with one passage from each test set identified as being well-formed and the other as scrambled. Test passages varied in length, with some at 100 words and some at 400 words. Longer passages followed shorter passages by one week. Orders of normal and scrambled versions were counterbalanced. Recalls were scored for idea units recalled, and then classified as either following or not following the organization of the passage. For short passages, there was a significant main effect for reader awareness or nonawareness of text structure, for normal versus scrambled text, and a significant reader by test type interaction. Readers identified as aware recalled more of the normal passage; no differences were found for those not aware. For longer passages, results were similar.

Waters, Harriet Salatas. Organizational strategies in memory for prose: A developmental analysis. *Journal of Experimental Child Psychology*, October 1981, *32*, 223-246.

Investigates, in two studies, the use of organizational schemes in memory for prose. In Experiment 1, 124 college students generated either a structured or relatively unstructured passage from a prompt word outline. The subjects were told of a recall test before writing, after writing, or not at all. A significant interaction between instructions and materials was found. Recall of structured materials was similar for all three instruction groups, but the informed group recalled significantly more than the other two groups on the unstructured materials. Experiment 2 investigated the developmental aspects of recall with variables similar to those in Experiment 1. Subjects were eight year olds, eleven year olds, and college students. There were 64 subjects at each age level. Subjects either generated or listened to a structured or unstructured passage. For eight year olds, there was greater recall on structured materials that were generated. For 11 year olds, recall of unstructured materials that they had listened to was significantly lower than recall in the other presentation paradigms. The recall scores of college students were higher than those of 11 year olds, but the pattern of scores was similar. Sex differences were also found.

Omanson, Richard C. An analysis of narratives: Identifying central, supportive, and distracting content. *Discourse Processes*, July/December 1982, *5*, 195-224.

Presents an analysis of narratives that classifies content as Central, Supportive, or Distracting. Central content is defined as describing the gist or skeletal plot of a narrative.

Supportive content gives detail to the plot, and Distracting content adds detail that disrupts it. The report applies the analysis to a narrative in four steps. First, text is divided into clausal units, each of which is then classified as identifying, characterizing, or focal. Relations connecting focal events are then identified, and finally each unit is classified as Central, Supportive, or Distracting. Interrater reliability of the analysis procedures was completed using the author and one judge and was found to be .91. A comparison is made between these analysis procedures to other theories and already existing data are analyzed in line with this analysis. Data from previous studies support the hypotheses of this paper that: 1) Central content is judged as more important and is recalled better than Noncentral content; and 2) Recall of Central content is enhanced by Supportive content but impaired by Distracting content.

STONE, JOY. The effect of format and number of arguments on comprehension of text by college undergraduates. In L. John Chapman (Ed.) *The Reader and the Text.* London: Heinemann Educational Books Ltd., 1981, 152-162.

Investigates how differences in the format type of a text and in the number of arguments within propositions in a text affect the recall of undergraduates of differing reading ability. Subjects ($n = 120$) were classified as skilled or unskilled readers on the basis of *The Diagnostic Reading Test.* Four passages of 130 words and containing 30 propositions were prepared in four forms. The number of arguments in one condition was twice that in the other condition, and the format of the passages was either standard or a list, constructed so that meaningful components were separated on successive lines of the page. Each subject read each passage in one of the four forms. Written recall protocols were collected and scored in comparison to the text base used to generate the original passages. Main effects were found for reading ability ($p < .01$), for format ($p < .01$), and for number of arguments ($p < .01$). Interactive effects were found between ability and format ($p < .01$). Skilled readers scored better in the list format than the standard format ($p < .001$).

GOLDMAN, SUSAN R., & VARNHAGEN, CONNIE K. Comprehension of stories with no-obstacle and obstacle endings. *Child Development,* August 1983, *54,* 980-992.

Compares the comprehension of stories with successful and unsuccessful resolution of conflict. Subjects were 16 second graders, 16 fifth graders, and 16 college students. A factorial Latin square design comprised of two story endings (obstacle versus no-obstacle), two modes of presentation (listening versus reading), and four orders of presentation was used. Two aspects of comprehension were assessed: 1) story memory measured by free and cued recall; and 2) comprehension of causal inferences measured by "why" questions. Subjects' story preference was also obtained. Significant differences were found for some of the main effects and some of the first and second order interactions. A developmental trend with older subjects favoring obstacle stories was also observed.

WORDEN, PATRICIA E., & NAKAMURA, GLENN V. Story comprehension and recall in learning-disabled versus normal college students. *Journal of Educational Psychology,* October 1982, *74,* 633-641.

Asks 24 learning-disabled (LD) college students and 24 normal college students to rate stories on the importance of their idea units. Three Japanese folk tales, each containing 59 idea units, were typed onto three pages, with one unit per line. One tale was used for practice purposes; each subject then read one additional story and rated idea units on a four-point scale from least to most important. They were to place 15 units at each importance level. One week later, subjects returned, read the passage again. One half of the subjects were asked to select 12 idea units most helpful in facilitating recall, then were asked to recall the story. The other half read the story, were asked to recall it, and then selected 12 idea units to serve as recall aids. LD students showed significantly less agreement than did normal college students on their importance ratings. Normal subjects selecting cues after recall used a different strategy than did normals selecting cues before recall. LD students did not vary their cue selection strategy. Recall did not differ for LD and normals who selected retrieval cues after recall. When selecting cues before recall, LD subjects did not perform as well as normals on recall.

MANDLER, JEAN M. Some uses and abuses of a story grammar. *Discourse Processes*, July/December 1982, *5*, 305-318.

Describes some uses of story grammar as well as some misuses. Research is cited. In particular, the use of story grammar as an approach to the study of story comprehension and memory is emphasized.

MATSUYAMA, UTAKO K. Can story grammar speak Japanese? *The Reading Teacher*, March 1983, *36*, 666-669.

Applies two story grammars to the analysis of 20 Japanese folktales to see if they can describe the story structure. Only one of the models proved appropriate. Using the Mandler and Johnson model, 80% of the Japanese folktales were found not to have a goal structure for the main character. The author notes that traditional Japanese culture, rooted in Buddhism, emphasizes the importance of having no desire and generally does not encourage goal-oriented behavior. It is noted that children from Western cultures may not have schemata for some of the Japanese story structures and may, therefore, need help with comprehension.

MANDLER, JEAN M., & GOODMAN, MARSHA S. On the psychological validity of story structure. *Journal of Verbal Learning and Verbal Behavior*, October 1982, *21*, 507-523.

Tests the psychological validity of the constituent units and sequencing rules of a story grammar through three experiments conducted with undergraduate students. Experiment 1 tested the effects of the constituents of traditional stories on comprehension and retrieval times. Two-episode stories were read; four were temporarily connected and eight were causally connected. The predicted outcome that the first sentence of each unit would be read more slowly than the second was confirmed, as was the prediction that recall would be faster when the cue was the first sentence and the target the second, rather than the target and the cue being separated by a constituent boundary. In Experiment 2, identical sentences from 1 were used, but the story structure was removed. Half of the paired sentences had within-constituents and half consisted of adjacent sentences crossing constituent boundaries. Successive pairs of sentences came from differing stories. Differences in Experiment 1 seemed to be due to the effects of story structure rather than to semantic relatedness or lexical overlap. Experiment 3 tested the ordering rules for story constituents. Single-episode stories were created and then altered so that a sentence was moved one sentence away from its normal position in a story. Movement of a unit involved more reading time, with moving the unit forward in the story involving more time than moving the unit backward. Movement also produced more recall errors. Subjects seem to use their knowledge of story structure to recognize shifts in placement and in information. Deviations from canonical structure seem to slow comprehension and create errors in memory.

CIRILO, RANDOLPH K. Some effects of story structure during comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 88-92.

Reports two experiments investigating the relationship between the structural properties of stories and reading. In the first experiment, three stories were written in four forms. A particular sentence in each story was repeated varying both its hierarchical level, high or low, and its serial position, early or late. College students (n = 24) read the stories by controlling the presentation on a screen one line at a time. Time taken to read each presentation was noted. Recall protocols were collected for three stories, and scored for the presence or absence of the gist of the critical sentence. High-level sentences took longer to read than low-level ($p < .005$) and early-occurring sentences longer than late-occurring ($p < .025$). High-level sentences were recalled more often. In the second experiment, 12 two-episode stories were written in two versions. In one version, the two episodes had the same structure in terms of events, descriptions, intersentential connections, and syntactic forms. In the second version, structures differed in the episodes. College students ($n = 22$) read half the possible stories; six of each form. Data were collected, in a similar manner to the first experiment, for the second episode of each story. The average reading time of an episode was shorter when it repeated the structure of the episode prior to it ($p < .01$), and reading times decreased as subjects got further into an episode ($p < .001$). More lines were remembered from the second episode of common structure stories than from those with different episodic structures ($p < .05$).

CRONIN, MARY C. Cree narrative and the universality of the idea story structure. *Reading – Canada – Lecture*, May 1982, *1*, 3-14.

Tests the effect of two story structures, one a conventional fairytale and the other a Cree Indian narrative, on the quantity and quality of recall of 16 sixth grade Cree children. All 16 had Cree backgrounds and had been reared in native communities. All were proficient readers on the *Canadian Test of Basic Skills*. Each pupil read two stories and then recalled each one after a five-minute intervening task. Stories were read on different days. Recalls were segmented into t-units and analyzed for semantic similarities between story propositionals of the original and the recalls. Recalls were also analyzed for structural changes and the number of inverted, added, and distorted propositions was calculated. Cree children recalled the conventional fairytale more accurately and completely than the Cree narrative. The difference between the recalls for the proportion of inversions, additions, and distortions was not significant.

MANDLER, JEAN M., & MURPHY, CATHLEEN M. Subjective judgments of script structure. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, July 1983, *9*, 534-543.

Varies script format and length to note the effect on subjective judgments about the representation of common event sequences. The 137 undergraduate psychology students employed as subjects were randomly assigned to one of four groups, each of which received a different type of script format: short story, short phrase, long story, and long phrase. No punctuation was used in any of the versions. Subjects were to draw boundary lines between natural parts or units. Judgments about the division of the scripts into units varied markedly among versions as well as in comparison with a previous study.

DUNN, BRUCE R.; MATHEWS II, SAMUEL R.; & BIEGER, GEORGE R. Deviation from hierarchical structure in recall: Is there an "optimal" structure? *Journal of Experimental Child Psychology*, December 1982, *34*, 371-386.

Investigates in two experiments children's recall of expository text to note if a hierarchical pattern is followed. In Experiment 1, 20 gifted and 20 average fourth graders were asked to read a 174-word passage twice and then to write what they recalled. Recalls were then compared to the content structure of the passage, and idea units recalled at each of six levels of the passage were tallied. High ability children recalled more lower level items than did average ability children, while the latter tended to recall proportionally more of the higher level than did lower level items. Experiment 2 replicated the first but with different material and subjects. Children for the second experiment were 92 fourth and sixth graders of average or below average reading ability. Results of both experiments supported the conclusion that there is probably no one optimal hierarchical structure for storage and retrieval of expository text.

Mosenthal, Peter, & Davidson-Mosenthal, Randie. Individual differences in children's use of new and old information during reading lessons. *The Elementary School Journal*, September 1982, *83*, 24-34.

Focuses on strategies children use in resolving contradictory information found in two stories with identical episodic structures and identical relations between episodes. Subjects were 49 fourth graders from seven different reading groups in the same school. Over a 10-week period, during reading instruction, verbal interactions between pupils and their teachers were taped. Pupils' responses were classified according to whether they were noncontingent, imitative, or contingent. Noncontingent responses consisted of pupil utterances composed entirely of old information with no new information from the teacher. Imitative responses were pupil utterances repeating teachers' utterances so that no old information was added. Contingent responses were pupil utterances which added old information to teachers' utterances. Following recording of the normal reading lesson, the teachers taught two lessons based on each of two stimulus stories. Pupils then wrote what they remembered about the stories and answered five questions. Scorers determined the number of times each of the groups used one of five types of strategies and recalled a motive corresponding to either personal constructs or story constructs. Noncontingent children resolved anomalous information by interpreting the stories in terms of personal constructs; imitative children, by interpreting the stories in terms of the stories' constructs, thus using primarily new information; and contingent children, in terms of story constructs. The authors suggest that how children integrate new and old information depends in part on how children perceive their interactions with their teachers.

Chapman, L.J. The perception of language cohesion during fluent reading. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 1. New York: Plenum Press, 1979, 227-257.

Investigates the role of language cohesion in fluent reading. Subjects were eight-year-old fluent and non-fluent readers, as determined by scores on the *Schonell Graded Word Reading Test*. Fluent readers ($n = 39$) had an average chronological age (CA) of 8.8 years and reading age (RA) of 9.7 years. Non-fluent readers ($n = 35$) had a CA of 8.3 years and RA of 7.6 years. Seven test stories were written in which different target pronouns were deleted from each story. Children were required to read the story and write in the missing pronouns either with a list of the pronouns present or without. Significant effects were found for story, fluency and presence of a pronoun list ($p < .001$). It is argued that the perception of cohesive ties, by providing cues for textual integration and the recovery of meaning, is a major determinant of reading fluency.

Chapman, L.J., & Stokes, Alan. Developmental trends in the perception of textual cohesion. In Paul A. Kolers, Merald E. Wrolstad, & Herman Bouma (Eds.) *Processing of Visible Language*, Vol. 2. New York: Plenum Press, 1980, 219-226.

Investigates developmental trends in perceptual cohesion through the use of modified cloze procedure. Three equal groups of children ($n = 270$), aged 8, 11, and 14 years, were presented with stories in which different target pronouns, conjunctions, or non-pronouns had been deleted. The 14 stories were presented in each condition to all the children. There was a significant coefficient of correlation of chronological age with pronoun scores ($r = .69$), non-pronoun scores ($r = .62$) and conjunctions ($r = .71$). The relationship between pronoun and non-pronoun scores was strong ($r = .94$). Results indicate a developmental pattern of mastery over the three tasks.

Dell, Gary S.; McKoon, Gail; & Ratcliff, Roger. The activation of antecedent information during the processing of anaphoric reference in reading. *Journal of Verbal Learning and Verbal Behavior,* February 1983, 22, 121-132.

Addresses the time course of the retrieval of antecedent information during the processing of anaphoric reference in reading. Four experiments are reported, each involving college undergraduates, and with ns of 24, 48, 48, and 48, respectively. In all experiments, students read paragraphs a word at a time on a screen. A single-word recognition test was given at unexpected times. Response time and error rate data were collected. Findings indicated that both the referent of a superordinate anaphor and concepts in the same proposition as the referent became activated as early as 250 milliseconds after the anaphor was read. As the sentence is read, the referent remains activated but the activation of other concepts dies away. Results are discussed in terms of theoretical insights provided into the reading process.

Carrell, Patricia L. Cohesion is not coherence. *TESOL Quarterly,* December 1982, *16,* 479-488.

Reviews research on the theoretical and empirical aspects of schema theory in order to criticize the concept of cohesion as a measure of the coherence of a text. An overview is given of a theory in which cohesion is regarded as an index of contextual coherence. A criticism of the theory is made in the light of schema-theoretical views of text processing as an interactive process between the text and the reader, drawing from both theoretical and empirical work. Implications are drawn for the teaching of English as a second language.

Irwin, Judith Westphal. The effects of coherence explicitness on college readers' prose comprehension. *Journal of Reading Behavior,* 1982, *14*(3), 275-284.

Designs an investigation of the comparative effects of the explicitness of argument repetitions and connective concepts on 54 college students' written recall of a 500-word expository passage. Four versions of the passage were prepared: 1) explicit argument repetitions/implicit connective concepts, 2) explicit connective concepts/implicit argument repetitions, 3) both explicit, and 4) both implicit. Random assignment was made to passage version. Subjects read the passage silently and then were asked for a written recall. There were no differences among the four groups at either the micro or macro levels in terms of reading times, amount recalled, or reading time/amount recalled ratios. However, significant differences were noted among the variances of the four groups for macro-level recall, reading time per micro-proposition recalled, and reading time per proposition recalled. For each of these variables, the variance was largest for the group in which all coherence relations were implicitly stated.

Garnham, Alan; Oakhill, Jane; & Johnson-Laird, P.N. Referential continuity and the coherence of discourse. *Cognition,* January 1982, *11,* 29-46.

Investigates the role of referential continuity in understanding discourse by mature readers and skilled and unskilled readers who were eight years old. Subjects in Experiment 1 were 24 college students. They listened to three 200-250 word stories or three 200-250 word descriptive passages in one of three versions: as originally written, versions in which the order of the sentences of the story had been randomly reorganized, and randomized versions in which the referential continuity had been restored by replacing pronouns and other terms with the appropriate noun phrases. After listening to the passages, subjects scaled the comprehensibility of the story and then wrote what they could recall from the story. Original stories were better recalled and rated more comprehensible than the randomized version. For the descriptive passages, there were no differences in rated comprehensibility or recall. In Experiment 2, six 50-word short stories presented in the same three versions were read by children. There were 12 skilled comprehenders matched to 12 unskilled comprehenders. The two groups did not differ on sight-recognition vocabulary using an adapted version of the

Gates-MacGinitie Reading Test and the word recognition subtest of the *Neale Analysis of Reading Ability*, but did differ in comprehension on the Neale. After reading the story, subjects orally reported as much of the story as they could recall. The original story was recalled better than the random and restored version by both groups, and the restored version was recalled better than the random version, but only by the skilled readers.

FREDERIKSEN, JOHN R. Understanding anaphora: Rules used by readers in assigning pronominal referents. *Discourse Processes*, October-December 1981, *4*, 323-347.

Examines text characteristics that influence a reader's difficulty in resolving problems of pronominal reference. The subjects of the experiment were 44 high school students chosen to represent a wide range of reading ability. On the basis of scores on the *Nelson-Denny Reading Test*, subjects were selected from four score ranges: below 50th percentile, 50th to 80th percentile, 80th to 97th percentile, and 98th and 99th percentiles. Each subject read 50 texts of 2-4 sentences. There were 10 types of text: three differing in the potential referent in the first sentence, five differing in the degree that the intervening sentences foregrounded the referent, and two types of final sentences differing in degree to which the reference was ambiguous. The initial sentence always contained the referent or referents and they always foregrounded the correct or incorrect potential referent. Dependent variables were reading times for each sentence and reaction time to name the referent of the pronoun in the final sentence. Reading times were related to certain structural properties of text: number of potential referents, topicalization of the correct referent, staging of references to the correct or incorrect noun phrases, and the degree of ambiguity in the target sentence. The author concludes that the findings support a reinstatement theory in which several available, potential referents are brought into working memory when a pronoun is encountered.

ROTH, EMILIE M., & SHOBEN, EDWARD J. The effect of context on the structure of categories. *Cognitive Psychology*, July 1983, *15*, 346-378.

Designs a series of three experiments examining the effect of context on the representativeness ordering of exemplars of a category. Subjects in all experiments were undergraduate students and numbered 42 for Experiment 1, 52 for Experiment 2a, 40 for Experiment 2b, and 24 for Experiment 3. Experiments 1 and 2 utilized an online reading time paradigm in examining the effect of context on the time it takes to establish an anaphoric reference between an examplar and a category item. It was found in Experiment 1 that context can change the relation between a category term and an exemplar at the time of comprehension. Findings of Experiment 2 demonstrated that category terms presented in context generate graded goodness-of-example distributions of exemplars that are different from the distributions generated in the absence of explicit context. In Experiment 3, response time was found to be a function of degree of relatedness to the context dependent category representation. Discussed are several models of current semantic memory theories to account for the findings.

HERTEL, PAULA T. Remembering reactions and facts: The influence of subsequent information. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, November 1982, *8*, 513-529.

Examines the influence of subsequent information on memory for reactions to a biographical passage. Four experiments are reported with 108, 144, 128, and 120 college students taking part. Experiment 1 examined temporal conditions for influencing memory for reactions; in Experiment 2, bias effects in memory for reactions were compared with those in memory for facts from the passage. Experiments 3 and 4 further explored these comparisons. In the first experiment, findings showed that reaction memory shifted as a function of the type of subsequent information presented when three weeks separated it from the memory test, but not when testing was immediate or when the information was given just before the delayed test. In the second experiment, it was found that misleading factual information influenced memory for passage facts most when it was delivered immediately prior to the delayed recognition test. Experiments 3 and 4 gave similar results.

KIERAS, DAVID E. Topicalization effects in cued recall of technical prose. *Memory & Cognition*, November 1981, *9*, 541-549.

Investigates cued recall of passages that contained information about two topics, of which either topic could be identified as the passage topic by initial mention or the sentence surface subject position. There were 48 subjects in Experiment 1 and 60 subjects in Experiment 2; all subjects were paid college students. In both experiments, subjects read a passage containing information about two topics and were instructed to write as much as they could recall. The recall cue was either the item marked as the topic or non-topic item. Experiment 1 marked the topic by placing the sentences related to the marked topic in the initial position of the paragraph. In Experiment 2, the topic was marked by constructing sentences with the marked topic as the surface subject of the sentence. If the cue was the topic, recall about the topic item was greater than recall about the non-topic item. If the cue was the non-topic item, recall about the two items was generally equal. But topic and non-topic cues produced the same overall level of recall.

KIERAS, DAVID E. A model of reader strategy for abstracting main ideas from simple technical prose. *Text*, 1982, *2*(1-3), 47-81.

Gives results of a series of three studies focusing on strategies used in devising a statement of the main idea of short technical passages. Four passages were prepared but results with only two are reported. Two versions of each passage were written: a good version with an explicitly stated generalization in the first sentence, and a bad version with the first sentence in the good version deleted. Subjects, all undergraduates, were to read each sentence presented one at a time and then compose a main idea statement. In the first experiment, subjects provided reading times during the reading phase, wrote a main idea statement, then were shown each sentence again and asked to rate their prior pre-experimental familiarity with the content of each sentence. In Experiment 2, the importance of each sentence was rated as being central, related, to the main idea, or unimportant. The content of the main idea response to Experiments 1 and 2 were compared. In Experiment 3, subjects were asked to think aloud in stating their hypotheses as to the main idea as they read each sentence. Results indicated that most readers utilized a strategy tailored to the generalization structure of the passages. In the good version of the passage, the first sentence was recognized uniformly as being a statement of the main idea, was rated high in importance, and was described as a good main idea. However, in the bad version, there were many revisions of the main idea. The strategy identified from the experiments was then represented in the form of a computer simulation using production systems and proportional memory strategies.

BAUMANN, JAMES F. Children's ability to comprehend main ideas in content textbooks. *Reading World*, May 1983, *22*, 322-331.

Probes abilities of third (n = 83) and sixth (n = 89) graders to comprehend main ideas from elementary social studies textbooks. Three experimental passages at each grade level were randomly selected from pools of texts taken from social studies textbooks. Gist and main idea statements were identified through a procedure using undergraduate education majors as judges. Pupils then read a passage and were asked to write a gist statement and a cued recall. At a second session, pupils were given a second passage to read, asked to select a gist statement from a list of seven, and then given a 12-item multiple-choice comprehension test. For the production task, 30% of grade three and 40% of grade six children were able to give an appropriate gist statement; for the recognition task, about 70% of pupils at both levels correctly identified the gist statement. In general, children were not able to consistently demonstrate superior comprehension of main ideas over details in either written cued recall or multiple-choice format.

PICHERT, JAMES W. Sensitivity to importance as a predictor of reading comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 42-46.

Reports two experiments investigating relationships between reading comprehension and children's ability to rate and recall important prose elements. In the first experiment, subjects were third (n = 45), fifth (n = 45), and seventh (n = 41) grade pupils. A story was constructed that could be viewed in terms of two or more high level schemata. Subjects read the story from one of two specified perspectives, or from no directed perspective, and then rated the relative importance of each idea unit on a three-point scale. Reading comprehension was assessed on the *Stanford Achievement Test*, and used to split the pupils into high and low groups. The interaction between reading comprehension level and idea unit importance was significant ($p < .01$). Age and perspective also affected sensitivity to idea unit importance (significance level not reported). A follow-up study replicated the procedure exactly with the third grade pupils after eight weeks, but in addition they were asked to recall the story. Predictors of reading comprehension scores were calculated. Decoding accuracy, congruence of ratings with peers, concordance of recall with the subject's own ratings, the proportion of important units recalled, and decoding speed were found to be significant predictors. In the second experiment, a similar procedure was followed with new groups of third, fifth, and seventh graders (n = 148). Pupils were given a test of word knowledge and decoding speed. After recalling the story, subjects listed story elements important to their old perspective and the listed those important to a new perspective. Older and brighter children remembered a greater number of additional units. Speed of decoding, total recall, age, decoding accuracy, and sensitivity to idea importance were predictors of reading comprehension scores (no significance levels reported).

PALMERE, MARK; BENTON, STEPHEN L.; GLOVER, JOHN A.; & RONNING, ROYCE R. Elaboration and recall of main ideas in prose. *Journal of Educational Psychology*, December 1983, *75*, 898-907.

Examines the utility of an elaboration hypothesis as a means of predicting the recall of major ideas from text through the manipulation of paragraphs and the use of inserted questions calling for different levels of elaboration. Five experiments are reported, utilizing 22, 16, 15, 16, and 16 undergraduate students, respectively. Experiment 1 examined the effects of different numbers of propositions within paragraphs on the recall of the major ideas. Experiment 2 was a replication of the first but with all surface cues (indentations, paragraph breaks) from an essay removed. Experiment 3 attempted to eliminate processing time; Experiment 4 examined the hypothesis that elaboration served to allow subjects to reprocess information; Experiment 5 assessed the effects of adjunct aids requiring different levels of elaboration on recall. Readers' recall of main ideas increased as the number of elaborations within a paragraph increased. Surface characteristics of text appeared not to influence the role of elaborations in enhancing memory for main ideas. When text inspection time is controlled, there is a somewhat diminished facilitative effect, although significant increases in recall still occur as the number of elaborations increases. When reprocessing of the same information is required, recall is not facilitated. Greater levels of recall of main ideas occur when adjunct questions require more reader elaboration.

PICHÉ, GENE L., & SLATER, WAYNE H. Predicting learning from text: A comparison of two procedures. *Journal of Reading Behavior*, 1983, *15*(1), 43-57.

Conducts two experiments in an effort to compare two prose analysis procedures used to predict recall of textual information. In the first experiment, 94 undergraduates enrolled in their first freshman composition course were utilized as subjects; in Experiment 2, there were 100 similar subjects. In Experiment 1, two 650-word expository texts were divided into meaning or pausal units by 106 undergraduates. Passages were retyped with one unit per line and then ranked on a 4-point scale for importance by a second group of students. The 94 experimental subjects were then asked to rank the units for one passage in the same manner and received the second passage to recall. The recall passage was shown via slides at a predetermined rate. Pearson product-moment correlation coefficients of .98 and .92 were found for the two passages between importance rankings by the experimental group and the independent group of rankers. Mean percentage of recall by the experimental group for both passages was 66% for most important ideas and 17% for least important ideas. Materials in Experiment 2 were identical to those in the first experiment; procedures were also identical with the exception that two graduate student judges analyzed the two passages into importance units using a second text analysis procedure. As in Experiment 1, the main effects of passage and of importance level were significant, with the mean percentage of recall increasing as a function of importance level when the first text analysis procedure was used. When the second text analysis procedures were employed, recall was found to be better for units classified as less important than for those classified as most important.

THOMAS, SUSAN, & BRIDGE, CONNIE. A comparison of subjects' cloze scores and their ability to employ macrostructure operations in the generation of summaries. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 69-77.

Investigates the relationships between subjects' cloze scores and their ability to employ macrostructure operations in summarizing. Subjects (n = 18), who were eighth grade pupils, completed a cloze task and then read the unmutilated version before summarizing. The passage was at the eighth grade level of readability. Protocols were scored in terms of the importance of each idea unit recalled, and the degree to which the recall preserved the original meaning (on four-point scales). The importance of each idea unit was determined by adult raters. High scorers on the cloze task were compared with low scorers. High scores included more idea units in their summaries, and more highly rated units. Low scorers' recalls lacked the specificity and precision of the recalls of the high scorers.

CZIKO, GARY A. Another response to Shanahan, Kamil, and Tobin: Further reasons to keep the cloze case open. *Reading Research Quarterly*, Spring 1983, *18*, 361-365.

Comments on and critically reacts to a previously published investigation into some aspects of cloze procedure as a measure of comprehension. The author points out and reviews relevant research on the cloze procedure either not considered in the research being critiqued or else inaccurately reviewed. Methodological limitations of the research are cited. Finally, it is suggested that a systematic analysis of the literature be done in order to establish why some research has found the cloze procedure to be sensitive to intersentential comprehension and other research has not. Six factors to be investigated carefully are mentioned.

EHRLICH, KATE, & JOHNSON-LAIRD, P.N. Spatial descriptions and referential continuity. *Journal of Verbal Learning and Verbal Behavior*, June 1982, *21*, 296-306.

Carries out a series of three experiments designed to investigate the effect of referential continuity on the task of drawing a diagram corresponding to the description of a spatial layout. Subjects were 12, 24, and 18 undergraduates, respectively. The first two groups were from a British university, and the third, from an American school. In Experiment 1, subjects listened to three sentences describing a spatial layout. Two kinds of descriptions, continuous and discontinuous, were employed. Referentially continuous descriptions led to more accurate diagrams than did referentially discontinuous descriptions. In Experiment 2, there were three degrees of referential continuity in the descriptions: continuous, semicontinuous, and discontinuous. Both continuous and semicontinuous descriptions were easier than discontinuous. In the third experiment, subjects read the descriptions. Findings replicated those of the other two experiments. Times taken to read individual sentences suggested that subjects were trying to integrate each incoming sentence into a single coherent mental model and that those sentences which could not be immediately integrated were represented in a propositional form.

MALAKHOVA, A.D. The interaction of image-based and verbal components of comprehension. *Soviet Psychology,* Spring 1983, *21*(3), 51-70.

Studies the functions of the imagistic and verbal thought codes in comprehension using 90 Russian adults as subjects. Subjects were asked to think aloud as they were presented with humorous material in pictures accompanied by text and with movie film of a scientific and artistic nature. Each set of materials contained a theme with a conflict. The task was to understand the theme by drawing on the imagistic and verbal information. Analyses of responses revealed that subjects comprehended at different depths and that depth of comprehension depended upon the subject's ability 1) to abstract semantic information from the presented material, 2) to concretize important facts, and 3) to generalize to the main meaning of the message. Processing of information with the aid of verbal and pictorial codes operating simultaneously created a redundancy of information which gave a message specificity. Thus, even when information presented in one code was relatively complete, the interaction between the two codes made for a condition of reliable comprehension.

MANZO, ANTHONY V., & CASALE, ULA PRICE. A multivariate analysis of principle and trace elements in mature reading comprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 29-36.

Investigates the nature of mature reading comprehension through multiple regression analysis of factors in a test battery. Students (n = 80) from 7th and 8th grades completed ALARM (Assessment of Language and Reading Maturity) in which the 15 factors are: 1) word recognition; 2) vocabulary; 3) analogies; 4) syntactic complexity; 5) modified cloze; 6) conventional reading comprehension;; 7) general knowledge; 8) abstract verbal reasoning; 9) elaborative thinking; 10) social/emotional; 11) teaching/learning range; 12) cultural/experiential compatibility; and critical judgements of 13) useful information; 14) reasonability; and 15) continuous prose. The principal elements in mature reading comprehension were factors 8, 14, and 13. Trace elements were 12, 9, 7, 4, and 1.

HESS, THOMAS M., & RADTKE, ROBERT C. Processing and memory factors in children's reading comprehension skill. *Child Development,* June 1981, *52,* 479-488.

Examines the roles of verbal coding skills, processing efficiency and memory ability in individual and developmental differences in reading comprehension skill. Subjects of the study were 75 children in grades three through eight who had reading problems. Each child was administered tests of automatic processing of phonological information, name retrieval, reading time, memory scanning efficiency, memory span for strings of letters of high and low approximation to English, and story recall. Reading comprehension was assessed with the *Iowa Test of Basic Skills.* Stepwise regression results indicated that memory span for letter strings with low approximation to English, semantic coding skills, and scanning speed were significantly related to reading comprehension. Further analysis suggested that a general memory ability factor affected performance on all memory tasks. Concludes that skill differences can arise through ability differences at two independent levels, processing speed and memory, and that general factors might be more important predictors of skill than specific operations.

Cramer, Eugene H.; Pascarella, Ernest T.; & Hendress, Cheryl. An analysis of analogical reasoning and reading comprehension ability in middle and upper grade students. In Michael L. Kamil & Alden J. Moe (Eds.). *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, *1980, 6-14.*

Investigates the relationships between reading and analogical reasoning. Students (n = 307) in grades four through eight were tested on reading with the *SRA Achievement Tests* and on analogical reasoning with a specially constructed test. Nine categories of verbal analogies were included with six items in each category. Each item was of the form 'A is to B, as C is to —.' The reliability coefficient of the test was computed at .86, and intercorrelation coefficients among the categories indicated that no category showed more than 26% of its variance with any other. There were associations between subjects' total scores on the analogies test and reading vocabulary, reading comprehension, and total reading scores (all $p < .01$). There was a relation between grade level and total analogies score ($p < .001$), but student sex did not affect scores. Three categories (quantitative, postwhole, and functional analogies) had positive relationships with grade level ($p < .01$), and two categories (quantitative and functional analogies) had positive relationships with all three reading achievement measures ($p < .01$).

Smith, Edwin H.; Palmer, Barbara C.; & Clarke, Barbara K. A mosaic of critical reading studies. *Florida Reading Quarterly,* March 1984, *20*(3), 30-34.

Reviews a series of doctoral studies completed at one university between 1973-1981 and all dealing with the ability to detect fallacies in reasoning. The studies are grouped generally according to age levels of subjects. The authors conclude from the review that 1) there is a positive relation between reading for the ability to detect fallacies and general reading ability; and 2) there is growth in the ability to detect fallacies from grades two through eight, but growth tends to stop at the high school level. The latter conclusion suggests that insufficient emphasis has been placed on critical reading at the secondary level.

IV-22 Research design

Feathers, Karen M., & Smith, Frederick R. The evolution of a research design: A case study in content reading. *Reading Psychology,* July-December 1983, *4,* 279-287.

Reports the evolution of a naturalistic research design used in a field-based study of content area reading. These investigators describe the process they went through in conducting an observational study of four secondary social studies classrooms. At four decision points, they explain how data collected and observations made were used to modify the initial research design and methodology. Problems encountered are discussed as well as questions raised by the procedures used.

Burns, Edward. Bivariate normal distribution estimates of the prevalence of reading disabilities. *Journal of Special Education,* Winter 1982, *16,* 431-437.

Describes how the bivariate normal probability distribution can be used to estimate the prevalence of reading disabilities when the primary variables are IQ and reading achievement test scores and when the coefficient of correlation between the reading test score and IQ is known or can be estimated. When the reading Z score cutoff is < -1.0, the IQ z score cutoff is > -1.3, and the coefficient between the two scores is .65, the proportion of reading disability cases will be about 10%. If the reading z score is < -1.0, and the coefficient between the two scores is .65, increasing the IQ score cutoff to $> -.7$ will decrease the proportion of reading disability cases to 5.76%. The advantages/disadvantages of utilizing the bivariate normal distribution to estimate the prevalence of reading disabilities are discussed.

Lomax, Richard G. Causal modeling of reading acquisition. *Journal of Reading Behavior*, 1982, *14*(3), 341-345.

Raises some questions with respect to the use of cross-lagged panel correlation, path analysis, and structural equation modeling techniques with respect to the modeling of reading acquisition. The author first comments that cross-lagged method may not uncover a true causal relationship, but rather may indicate either that no relationship exists or that there is an inverse relationship. Second, it is noted that path analysis assumes that variables are measured without error, but that when variables are based on fallible measures, the value of the associated path coefficients may be either under- or overestimated. Inasmuch as most reading-related measures are neither perfectly reliable or valid, measurement error can be large. Third, the author feels that most reading researchers have examined relationships among pairs of components of the reading process rather than causal networks. Causal modeling permits investigation among more than two processes. Finally, it is argued that only with the use of longitudinal causal models can the development of reading be accurately portrayed.

Moore, David W. What research did *not* say to the reading teacher: A case study. *The Reading Teacher*, October 1983, *37*, 14-19.

Gives a brief historical overview of research into eye movements and contends that findings were applied inappropriately in school settings. The author states that educators who utilized eye movement training programs were erroneous in their interpretation and application of research findings in this area. Other examples of the misuse of reading research are cited and a general caveat concerning the application of research findings to practice is underscored.

Rayner, Keith. Eye movements and the preceptual span in reading. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading*. New York: Academic Press, 1981, 145-165.

Reviews research using different techniques to measure the perceptual span in reading. It is argued that the estimate of the size of the perceptual span depends on the technique used, and this may be explained by the fact that different types of information are obtained from different regions of the perceptual span. From a comparison of eye movement research into the reading of English and Hebrew it is concluded that the perceptual span is symmetric and biased in the direction from which useful information can be obtained.

V. The teaching of reading

V-1 Comparative studies

Gorman, T.P.; White, J.; Orchard, L.; & Tate, A. *Language Performance in Schools*. Primary Survey Report No. 1. London: Her Majesty's Stationery Office, 1981.

Describes a survey of reading and writing performance completed on 11-year-olds. Approximately 10,000 pupils in England, 2,000 in Wales, and 1,500 in Northern Ireland were included. Measures to assess both reading and writing were developed specifically for the survey with each area consisting of 10 booklets. One subsample of 1,000 pupils also completed an attitude questionnaire and the *National Survey Test 6* (NST6) in order to compare results with findings from previous national surveys carried out since 1955. Responses to one reading booklet are discussed in some detail. Pupils showed least difficulty in answering questions about matters that were clearly stated and easy to locate in the text. Over two-thirds of pupils were able to use an index efficiently. About three-fourths were able to answer correctly questions calling for a comparison of information in different passages. Initial results indicated that some children were able to appreciate subtle stylistic effects in literature, short stories, and poems. About half of the pupils taking the attitude measures indicated they enjoyed reading and over half reported voluntary reading in their spare time. Sex differences were noted in taste. In general, reading scores were higher for pupils who expressed a positive attitude towards reading. Differences between mean scores for the subsample of this survey and for pupils taking the NS6 test in 1976-77 were nonsignificant. The correlation coefficient between the NS6 and the new measure employed in this survey was .77.

GORMAN, T.; WHITE, J.; ORCHARD, L.; & TATE, A. *Language Performance in Schools.* Primary Survey Report No. 2. London: Her Majesty's Stationery Office, 1982.

Reports findings of the second in a series of surveys into the reading and writing performances of 11-year-olds in England, Wales, and Northern Ireland. In this survey, approximately 5,600 pupils completed reading tests with a subsample of 1,000 also responding to a questionnaire of reading preferences and interests. Responses to a short story are detailed in particular in this report. The majority of pupils could respond correctly to the sequence of events but had difficulty in comprehending the general theme and in interpreting the central character's motivation. More boys than girls had scaled scores of 50 or below, but no significant sex differences were found for children with scaled scores of 50 and above. Reading books was preferred to reading comics by 50% of children. Pupils indicated that reading for pleasure was more important than reading for self-improvement.

GORMAN, T.; WHITE, J.; ORCHARD, L.; & TATE, A. *Language Performance in Schools.* Primary Survey Report No. 1. London: Her Majesty's Stationery Office, 1982.

Reports the findings of a survey of reading performance of 5,300 15-year-olds in England, Wales, and Northern Ireland. A subsample of 1,000 students also completed Reading Test NS6 and a questionnaire on reading preferences and attitudes. No significant sex differences were found in reading attainment. The coefficient between attitude towards reading and reading achievement was low, but boys were significantly less positive than girls towards most reading activities. Mean scores on reading between regional areas were nonsignificant.

KARR, SHARON K. School achievement of Sierra Leone, West African children from four sub-cultures. *Perceptual and Motor Skills*, August 1983, *57*, 204-206.

Records the effects of gender and degree of modernization upon the *Wide Range Achievement Test* (WRAT) Spelling, Arithmetic, and Reading scores on 72 class six (equivalent to sixth grade) Sierra Leone, West African children. Nine boys and nine girls were selected from the least modernized to the most modernized of the subcultures (differing in amount of exposure to a technical culture: village, modernized village, tribal urban, Creole urban). Boys' performances on Spelling were significantly higher than the results obtained from girls'. WRAT Spelling and Reading scores of the most modernized group (urban Creole) were significantly higher than those obtained from the other three subgroups. Interactions between gender and subculture were signifcant for Spelling and Reading, but not Arithmetic.

LEIBERT, ROBERT E. Performance profiles of ABE students and children in an informal reading inventory. *Reading Psychology*, April-June 1983, *4*, 141-150.

Compares reading performance abilities on an informal reading inventory for school-aged children and adults attending adult basic education day or evening classes. The 165 adults were given the *Adult Informal Reading Test*; children (n = 126) from three small school districts, who were reading at and below level, were selected from grades 1-6, grades 7-9, and special reading classes and were administered the same test. Subjects' oral reading of six passages were recorded and scored for accuracy of correctly pronounced words, rate, and comprehension as determined by five factual questions. Scores obtained were formed into distribution profiles for each tested variable. Differences between the two populations were identified. Test results revealed specific differences between the adults and children with respect to comprehension and rate of oral reading. Children showed a consistent decline in accuracy of oral reading within levels and were slightly superior in comprehension. Adults demonstrated less variability in reading accuracy within a level but their rate tended to decrease across passages.

STEVENSON, HAROLD W.; STIGLER, JAMES W.; LUCKER, G. WILLIAM; LEE, SHIN-YING; HSU, CHEN-CHIN; & KITAMURA, SEIRO. Reading disabilities: The case of Chinese, Japanese, and English. *Child Development*, October 1982, *53*, 1164-1181.

Investigates the significance of orthographic differences as the major factor determining the incidence of reading disabilities across Asian and Western cultures. Tests were developed to include comparable words across Chinese, Japanese, and English, and to construct items of comparable grammatical complexity and cultural relevance for kindergarten through adult levels. Tests had three parts: sight vocabulary, reading of text, and comprehension. All children were tested at the fifth-grade level, with testing continuing at lower or higher levels, depending on performance. In addition, ten cognitive tasks were constructed for the study: coding, spatial relations and perceptual speed, auditory memory, serial memory, verbal-spatial representation, verbal memory, vocabulary, general information, and mathematics achievement. Subjects were 453 children in Minneapolis, 770 in Sendai, Japan, and 932 in Taipei, Taiwan. Results suggested there was no greater incidence of reading disability among children reading English than among those reading Chinese or Japanese, whether the relationship between intelligence and reading ability or the two-year-below-grade level criterion was used as the measure. Two subgroups were analyzed: children who received the lowest scores and average readers matched on a variety of variables. Results confirmed that Japanese and Chinese children do have learning disabilities, as do American children. On cognitive abilities, high degrees of similarity were prevalent across cultures. General information and verbal memory were the most powerful predictors for discriminating between groups of poor and average readers for Chinese and Japanese; general information and coding were the most effective predictors for American children.

V-2 Status of reading instruction

SOUTHGATE, VERA; ARNOLD, HELEN; & JOHNSON, SANDRA. *Extending Beginning Reading*. London, England: Heinemann Educational Books Ltd., 1981.

Reports on a four-year study of the reading behaviors of British children aged between 7 and 9 years. The major part of the study involved 12 schools and 1,127 children. This population was administered the *Southgate Group Reading Test 2*, the *Wide-Span Reading Test*, and *Raven's Coloured Progressive Matrices*. Classroom observations and detailed assessments were made with 140 children of average ability, and in-depth interviews conducted concerning their views on reading and books. Information was also obtained from over 600 teachers working with 3,380 pupils, including data on accuracy of reading assessment and placement. Among the major findings were that much time was spent by teachers listening to individual children read orally; that these short sessions were ineffective; teachers spent considerable time supplying correct spellings to individual children when writing; children did very little personal reading in school; and children were frequently placed on instructional books that were too easy for them and recreational books that were too difficult for them.

Bates, Gary W. Profile of university-based reading clinics: Results of a U.S. survey. *Journal of Reading*, March 1984, *27*, 524-529.

Provides a basic description of university-centered reading clinics as they existed across the United States in 1982. Questionnaire responses were received from 242 of the original 341 circulated to all schools listed in *Graduate Programs and Faculty in Reading*. Of the responding schools, 87% provide clinical experiences for students in their reading education program; 67% have a clinic facility at the university, 50% use college classrooms for clinical work, 23% send their students to public schools for clinical experience, and 3% operate a facility in the public schools. A fee of some sort is charged by 57% of responding schools.

Moles, Oliver C. Synthesis of recent research on parent participation in children's education. *Educational Leadership*, November 1982, *40*(2), 44-47.

Reviews some recent studies on the effects of parent participation on achievement. After citing some of the literature, several conclusions are reached by the author: 1) interest in parent participation is strong; 2) educators need to re-examine prevailing beliefs about parents, their capabilities and interests; 3) there is interest in parent participation beyond the primary grades; and 4) the research information on parent participation is as yet incomplete and evolving.

Pearson, P. David, & Gallagher, Margaret C. The instruction of reading comprehension. *Contemporary Educational Psychology*, July 1983, *8*, 317-344.

Characterizes, summarizes, and evaluates the research on instructional practices in reading comprehension. The body of literature reviewed is primarily from 1977-1982. Studies are divided into and discussed under four major categories: 1) existential descriptions, 2) existential proofs, 3) pedagogical experiments, and 4) program evaluations. The section on pedagogical experiments is further subdivided into two categories. From the review of the first of the four major categories, the authors conclude that little in the way of explicit instruction of comprehension strategies or strategies for monitoring comprehension occurs. Existential proof studies have indicated that older and better readers are generally more effective at monitoring and adjusting whatever comprehension strategies they employ. Instructional experiments suggest that training either in strategy use or monitoring tends to be beneficial to all students.

Hunt, Jr., Lyman C. The processes of reading comprehension in elementary children: research related to instructional strategies to promote comprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 18-23.

Reviews selected research related to the teaching of reading comprehension. Silent reading is characterized as either intensive, where all the text is read from beginning to end to understand all the content, or extensive, where only major ideas are comprehended through a sampling of the text. It is argued that the former approach is school-based or textual in orientation, while the latter approach is more frequently home-based and personal. Implications are drawn for instruction.

SMITH, NANCY J., & MASON, GEORGE E. A review of selected research on teaching reading comprehension. *Educational and Psychological Research*, Fall 1981, *1*, 239-249.

Selects, reviews, and groups into seven areas research on single-strategy procedures or methodology in comprehension instruction. The areas into which the research is classified are practice, questioning, study, cloze, sentence structure, oral language-aided, and others. In addition to a brief discussion under each heading, several problems evident in the research on comprehension instruction are identified. Included among these are the incomplete measurement of comprehension, lack of agreement as to what constitutes instruction in comprehension, the difficulty of the vocabulary and sentences in the text being read, and the need for greater care in describing and/or controlling subject variables.

RAND, MURIEL K. Story schema: Theory, research and practice. *The Reading Teacher*, January 1984, *37*, 377-382.

Reviews research on story grammar and discusses implications of this research for instruction and materials.

SIMPSON, MICHELE L. Recent research on independent learning strategies: Implications for developmental education. *Forum for Reading*, Fall/Winter 1983, *15*(1), 22-28.

Discusses three insights gleaned from research in how to more effectively teach independent learning strategies. Practical implementations are addressed. The three conclusions from research are: 1) there is no one superior strategy for studying, 2) studying is an interactive process, and 3) students cannot control or regulate the strategies but need direct instruction in doing so.

MARSHALL, NANCY. The application of basic research to reading instruction. In Dennis F. Fisher & Charles W. Peters (Eds.) *Comprehension and the Competent Reader: Inter-Specialty Perspectives*. New York: Praeger Publishers, 1981, 36-50.

Reviews and discusses basic research that can be applied to reading instruction. After discussing why basic research is relevant for reading instruction, the author then discusses the assumptions and limitations of basic reading research, including definition of reading, why basic research studies adult reading, the purposes of discourse analysis, and some generalizations about the reading act. Concludes with some ideas for instructing students who are not fluent readers (including the topics of attention to discourse structure, students' prior knowledge, attending to relevant information, and implied relations and reading for meaning) and students who are fluent readers.

V-3 Early reading

TEALE, WILLIAM H., & JEFFRIES, LOUIS E. Reading in early childhood: A selected annotated bibliography. *The Exceptional Child*, July 1982, *29*, 127-136.

Annotates selected research and other articles focusing on early readers. Annotations appear under the following six major headings, some of which are subheaded: Comprehensive Studies of Early Reading, Theoretical Issues in Early Reading, Pedagogical Issues in Early Reading, Empirical Issues in Early Reading, Reviews of Early Reading, and Bibliographies of Early Reading.

Ferreiro, Emilia, & Teberosky, Ana. *Literacy Before Schooling.* (Translated by Karen Goodman Castro). Exeter, New Hampshire: Heinemann Educational Books, Inc., 1982.

Presents the results of research with 4, 5, and 6 year olds from lower and middle class backgrounds in Buenos Aires. The author used a Piagetian theoretical framework and Piagetian clinical interview techniques in collecting data. Information from a number of studies is presented, but the primary data come from 30 lower class first grade pupils and a cross section of middle and lower class 4, 5, and 6 year olds, all in some type of school. In discussing their findings on reading with pictures, the authors note that while children distinguish between print and pictures, they do not make the distinctions that adults do, but rather treat both as substitute objects. The book also discusses how children interpret different reading acts and how writing abilities evolve. Differences were found between lower class and middle class children in the developmental process with lower class children lagging behind. However, differences were a function of environmental and social factors.

Inselberg, Rachel; Smidchens, Uldis; & Holland, Beverly. Word decoding: Overgeneralization as a mechanism for minimizing phonetic analysis. *Merrill-Palmer Quarterly*, July 1981, *27*, 317-331.

Compares the effects of two methods of teaching phonics to beginning readers on ability to decode words. One phonic method, the reduced treatment group, taught only one sound equivalent per letter; the other phonic method, the full treatment group, taught not only the one sound per letter equivalents, but also the sounds of the "ai" vowel digraph, the "ou" diphthong and the long sound of the vowel "i". Subjects were five pairs of four-year-old monozygotic twins. One twin from each pair was assigned to each treatment method. Subjects were taught 10 minutes per day, twice a week for one academic year. All subjects were first taught the sound equivalents of nine consonants and the short sounds of vowels. After mastery of these sounds, subjects were taught to blend three-letter monosyllables until mastery. Subjects in the reduced treatment group were then taught to decode nine test words by utilizing the consonant and vowel equivalents they had already learned. The full treatment group was first taught the sound equivalents of the digraph, diphthong, and long "i"; then they were taught to decode the test words. Number of trials required to read all of the test words correctly was the dependent variable. Subjects in the reduced treatment group learned the test words in significantly fewer trials than the full treatment group. Concludes that initial word decoding facility is reduced when learners are taught specific rules.

Coleman, Edmund B. An educational experiment station for reading: How can learning to read be facilitated? In G. B. MacKinnon & T. Gary Waller (Eds.) *Reading Research: Advances in Theory and Practice*, Vol. 2. New York: Academic Press, 1981, 177-230.

Reviews selected research to suggest that appropriate subskills in reading can be ordered in such a way that very young children can be taught to read in a manner which will increase intelligence.

V-4 Reading readiness

Miller, Louise B., & Bizzell, Rondeall. Long-term effects of four preschool programs: Sixth, seventh, and eighth grades. *Child Development*, June 1983, *54*, 727-741.

Reports a follow-up study on the academic and intellectual performances of sixth, seventh, and eighth grade disadvantaged children who had experienced one of four types of Head Start prekindergarten programs or no prekindergarten work at all. Experimental children were randomly assigned to programs within schools; in addition, a comparison group of 34 children not attending prekindergarten was included. Following the implementation year, although results on controls were reported, the emphasis was on program differences. Fourteen classes were involved; four each in Traditional, Bereiter-Engelmann, and DARCEE, with two classes in Montessori. The total sample of experimentals at the end of prekindergarten consisted of 214 children, about 90% of whom were black. During the prekindergarten, kindergarten, and first-grade years, there were no program differences in achievement; by the end of second grade, Montessori, Bereiter-Engelmann, and the controls were superior readers. Data reported in the current effort were from the records of the 10th-grade sample in sixth, seventh, and eighth grades. IQs (WISC-R, *Stanford-Binet*) did not differ significantly among the program groups, but in reading and mathematics there were differential effects related to both preschool program and sex in all three middle-school years as identified by results on the *Stanford Achievement Test*. Males from the two nondidactic programs were significantly higher in achievement than males in the two didactic programs. Females from didactic programs were slightly but not significantly higher. Montessori males were consistently highest. The authors contend that their results were not attributable to selective attrition.

Sterchy, Sharon A., & Bell, Michael L. The effect of a course in educational gymnastics upon behavior and readiness skills of preschool children. *Educational and Psychological Research*, Winter 1981, *1*, 59-65.

Notes the effects of an eight-week gymnastics program upon the behavior and readiness skills of 38 preschool children, ages 3 to 5. Children were randomly selected to participate in the experimental or control group. All had been designated as behavior problems or high risk children. Experimentals met twice weekly for 45-minute periods for the eight weeks and received instruction in various gymnastics activities. Assessment instruments used were the *Slosson Drawing Coordination Test* (SDCT), the *Maturity Level for School Entrance and Reading Readiness Test*, and the *Vineland Social Maturity Test*. Experimentals performed significantly better than controls on the SDCT but no significant difference was found on the readiness test.

McCormick, Sandra. Reading aloud to preschoolers age 3-6: A review of the research. *Reading Horizons*, Fall 1983, *24*, 7-12.

Enlarges upon a previous review of research directed at reading aloud to school-age children by presenting this supplement on similar efforts made at the preschool age levels. Presents in tabular form data centered on: effects on language development; on interest in books; on academic readiness; on learning to read; on specific reading interests; on social attitudes; and on parent education. Concludes that reading aloud should be a regular and planned activity in every preschool and kindergarten classroom, and in every home where there are young children, as reading aloud provides assistance in realizing some of the most important educational objectives for preschool children.

Mayfield, Margie I. Code systems instruction and kindergarten children's perceptions of the nature and purpose of reading. *Journal of Educational Research*, January/February 1983, *76*, 161-168.

Examines 82 kindergarten children's perceptions of the nature and purpose of reading, their understanding of reading behaviors, their identification of code systems, and their ability to read printed symbols. Subjects were administered the Orientation to Literacy and Understanding Literacy Behavior subtests of the *Canadian Readiness Test*, an interview with questions formulated from previous research studies, a Code Systems Identification test patterned after the Technical Language of Literacy subtest of the *Canadian Readiness Test*, a Code Systems Vocabulary Test, and a Contextual Picture test. Experimental groups received instruction on five code systems (graphic, idea, word, alphabetic, and electronetic) for 25 minutes per day for 20 days: Group I received intensive code instruction; Group II received integrative instruction, where codes were incorporated into the regular curriculum. Interviews, pre and post, suggested children cannot verbalize a clear definition of reading. In post-interviews, more children said they could read "a little" than had previously. Nearly all children were aware of people who could read, and more could give meaningful responses to "what does reading help you do?" Results from multivariate and univariate analyses suggested no statistically significant effects due to age, sex, or treatment by sex interaction. There was a significant effect due to treatment on all tests but the Orientation to Literacy. Additional information from parents, classroom teachers, and the children was gathered through informal methods. Parents, children, and teachers all mentioned conversations or questions about the use of codes in the environment.

V-5 Teaching reading—primary grades

Hale, Angela. Basics against fluency: A sociological study of a routine teaching activity. *Research in Education*, May 1982, No. 27, 63-69.

Presents a brief analysis of findings based on observations of children reading orally in several British primary schools. After initial observations and interviews with 16 teachers in four schools, more intensive investigation was conducted in two schools involving three first and three second year junior teachers. The schools were situated in an innercity area with a large concentration of West Indian and Pakistani families. The basic analysis is made from tapes collected during one week in each classroom. The normal procedure in each of the classrooms was for a child to come to the teacher's desk and read aloud. At times, the teacher would carry on a conversation with another child while the reading continued. Less fluent readers are reported as being heard more frequently and as being stopped more for deviant verbalizations even when there was little effect on meaning. Teachers appeared to assume that there was no alternative to teaching phonic rules in an oversimplified and rigid fashion. Pronunciation of ethnic minority children tended to be systematically corrected. There appeared to be a lack of attention by teachers to the content of the material, suggesting that they did not see the accumulation of meaning as significant to the process of reading. If content was discussed at all, it was with more fluent readers.

Hale, A., & Edwards, A. D. Hearing children read. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 117-130.

Investigates the structure of the instructional situation during the practice of hearing children read orally in British primary schools. Initially the research involved observation of, and interviews with, 16 teachers in four schools. A more intensive study was then made of three teachers in first-year classes (children aged 7-8), and three teachers in second-year classes (children aged 8-9). The six teachers were observed and tape-recorded over a year. Some tapes were then selected for detailed analysis, and also played back to the teachers for their descriptive and evaluative comments. Hearing children read orally was the only activity specifically concerned with 'teaching reading' which was consistently described and observed. All six teachers kept a page by page record of pupils' progress through a reading scheme and spent a half to one-and-a-half hours each day on hearing children read. An analysis of strategies of intervention when children made a production error found an overwhelming emphasis on correct decoding, in which correct verbalization was taken as the measure of comprehension. Teachers' comments supported this interpretation. It is argued that the teachers' close control over the content and pacing of what is learned in this activity displays, with frequency and intensity, features which are characteristic of transmission-teaching in general.

Gambrell, Linda B. The occurrence of think-time during reading comprehension instruction. *Journal of Educational Research*, November/December 1983, *77*, 77-80.

Investigates the amount of time which occurs following a teacher-posed question (think-time) during text-based reading comprehension instruction. Nine third grade teachers, who volunteered to participate in the study, taped their reading lessons for above average, average, and below average reading groups. Teachers were asked to submit only taped lessons which they considered to be representative of their best teaching. Tapes were analyzed for think-time and question level. Questions were categorized as text-based or scriptal. The average lesson was 25 minutes long. The average number of questions posed per lesson was 36, and a teacher-posed question was asked every 43 seconds. Approximately one second of think-time occurred following each teacher-posed question. Significantly more think-time was allowed for text-based than for scriptal questions. Of the 964 questions, 609 were labelled text-based or textually explicit and 355 were identified as scriptal. Results indicated that the average and below average groups were asked significantly more text-based than scriptal questions, while the above average groups received a more balanced presentation.

Wilkinson, Louise Cherry, & Spinelli, Francesca. Using requests effectively in peer-directed instructional groups. *American Educational Research Journal*, Winter 1983, *20*, 479-501.

Presents data from two observational studies of children, one in peer-directed reading groups and one in math groups. Audio and video recordings of interactions were collected and analyzed for children's requests and responses. For the first study, 35 pupils in seven reading groups from two third-grade classrooms were studied. In all reading activities, the teachers presented the assignments and instructions and then left. A teacher-directed period occurred again shortly before the end of the 40-minute activity. Groups were seated at small tables. Reading activities were taped for 3½ weeks in the fall and again in the spring. Three separate tapings were collected for each reading group in each session. Additional data collected in the spring and fall included an assessment of grammatical comprehension as determined by the *Miller-Yoder Test of Grammatical Comprehension*; a speech sample analyzed for grammatical complexity; and reading achievement on the *Metropolitan Reading Achievement Test*. Overall findings indicated that children were effective in obtaining appropriate responses to their requests for action and information more than two-thirds of the time. Groups differed in their use of requests and responses, and particular aspects of requests predicted obtaining appropriate responses. In Study 2, subjects were 43 pupils in a combined second/third grade. Mathematics lessons were recorded for the children who were placed into mixed-ability groups of four pupils each. Analyses and findings were similar to those for the first study. In both studies, a small positive relationship was noted between achievement and pupils' requests and appropriate responses.

Sullivan, Emilie Paul. Acquisition of incidental reading vocabulary. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 108-110.

Investigates the effects of using read-along materials on the acquisition of incidental sight reading vocabulary for prereaders and beginning readers. Subjects were 16 boys and

20 girls from two kindergarten classes. Data were collected in the Spring for one class and in the Fall for the other. Children were pre- and posttested on recognition of 88 words on flashcards. Treatment consisted of five daily 10-minute sessions with read-along materials, where a taped version of a story was played twice as each child paged through an illustrated version of the text. Significant gains in incidental reading vocabulary are reported for both the Spring ($p = .066$) and the Fall ($p = .007$) classes. In addition, the words in the stories were analyzed for 1) frequency of occurrence in the stories, 2) word length in number of letters, 3) word configuration, and 4) presence of special features. Incidental sight word gain increased as length of word decreased, and words with no ascending or descending letters were learned more readily than other types. Post treatment investigation showed that children having the highest average pretest scores also had the greatest gain scores.

AARON, ROBERT L., & POWELL, GLEN. An investigation of the relationship between intelligence score and rate for word recall in a naturally occurring classroom setting. *Educational and Psychological Research*, Fall 1983, *3*, 219-234.

Assesses the effects of a seven-step sequence for teaching sight vocabulary of irregularly spelled words to children in grades 1-3. Fourteen classrooms enrolling 264 pupils were involved. Based on IQs obtained from the *California Short-Form Test of Mental Maturity*, Level 1, children were divided into low, average, and high IQ groups. Multiple regression analysis was performed on the three intelligence groups correlating 1) words taught per lesson, 2) lessons taught per week, 3) time spent per lesson, 4) daily time spent reteaching per lesson, 5) times per week words retaught, and 6) the average of all other time spent teaching the words with written recall accuracy at three time intervals (immediate, after reteaching, and long term). Words taught came from basal readers being used. The rate at which words were introduced and the amount of time used to teach words were related to immediate recall; long term recall did not relate to any of the variables. Seven words per week achieved 92% recall for the low intelligence group (50-83 IQ); 10 words per week were recalled with 90% accuracy by the average group (84-116 IQ); and 10 words per week gave maximum recall for the high IQ group.

WONG, KATHERINE M., & ROBERTS, ELIZABETH F. Parent involvement in reading program for kindergarten and first grade. *The Reading Instruction Journal*, Fall 1982, *26*(1), 15-17.

Utilizes a weekly workshop type program extending over a six-week time span to inform parents of kindergarten and first grade children about beginning reading skills and to demonstrate how they could effectively assist their children in developing these skills. Additionally, once a month sessions were conducted from January through May. The following data were obtained: *Metropolitan Readiness Tests*, Levels 1 and 2, *Dolch Basic Service Words* (preprimer list), Knowledge of the Alphabet and Knowledge of Consonant Sounds (Tests 1 and 2) of the *Informal Phonics Inventory*. Additionally, a parent questionnaire, parent log, and program evaluation informal measures were developed and administered. Data were used to compare experimental and control group scores; experimental parents had volunteered to participate and controls experienced no parental participation. Parents who participated were trained to work at home with visual discrimination, auditory discrimination, alphabet recognition, eye-hand coordination, letter sounds, sight vocabulary, and language development. Emphasis was also placed on affective areas. Results at the kindergarten level revealed no significant differences between the 23 experimental and 21 control children on the formal measures. First grade results showed significant differences favoring experimental children ($n = 10$) over controls ($n = 9$) on sight vocabulary and auditory discrimination. Informal measures showed more positive attitudes on the part of experimental parents over control group parents.

Cohen, S. Alan; Hyman, Joan S.; & Battistini, Edward E. Effects of teaching Piagetian decentration upon learning to read. *Reading Improvement*, Summer 1983, *20*, 96-104.

Examines the effects of instruction in Piagetian decentration concept training on children's ability to comprehend. The *Concept Assessment Kit Test* (CAKT) assessed the effects of decentration training and the *Basic Test of Reading Comprehension* (BTRC) was used to assess the comprehension of 78 second graders, half of whom received decentration training, while the other half received a placebo treatment. Ten 25-minute daily lessons were used to teach various concepts such as conservation and classification. The placebo treatment involved 10 lessons in auditory and visual discrimination. All subjects were then given the CAKT, and the decentration training group achieved practically twice that of the placebo group. Both groups were combined for reading comprehension lessons; the BTRC was then administered. The mean of the group receiving decentration training was 79% of the common within group variance higher than the placebo group on the BTRC.

V-6 Teaching reading—grades 4 to 8

Fitzgerald, Jill, & Spiegel, Dixie Lee. Enhancing children's reading comprehension through instruction in narrative structure. *Journal of Reading Behavior*, 1983, *15*(2), 1-17.

Investigates the possibility that direct instruction in story constituents and their relationships would enhance children's knowledge of story structure as well as their comprehension of narrative text. Twenty average and below average fourth graders identified as lacking a keen sense of narrative structure were randomly assigned to one of two treatments: special instruction designed to develop knowledge of story structure, and direct instruction in dictionary usage and word study. There were two phases of instruction, a short-term intensive phase and a long-term intermittent phase. Knowledge of story structure was assessed by two tasks: story production and scrambled story recall. For each task, six stories or settings were developed, two each for screening, interim, and final testing. The production task involved completing a story after reading a setting. Written responses were then scored for level of complexity. For the second task, the degree to which children reordered the stories was evaluated. Comprehension was assessed at interim and final times by literal and inferential questions over four stories pupils read. The instruction in narrative structure enhanced story structure knowledge and had a strong positive effect on reading comprehension when compared to the dictionary usage and word study group. The effects were realized at the end of phase one; these were maintained during phase two, but the group differences did not increase over time.

Raphael, Taffy E., & McKinney, Jean. An examination of fifth- and eighth-grade children's question-answering behavior: An instructional study in metacognition. *Journal of Reading Behavior*, 1983, *15*(3), 67-86.

Undertakes an examination of the effects of a 10-week program designed to heighten fifth- and eighth-grade pupils' awareness of information explicitly stated in text, information implied by the text, and information found only in the individual's knowledge base. Additionally, the relative usefulness of prompting pupils to think of these three relationships between questions and sources of information were examined. Involved were 217 pupils from fifth and eighth grades in four comparable schools whose ability was determined by a combination of vocabulary and comprehension scores on a standardized achievement test and by teacher judgment. Children were blocked on ability and assigned to training or control groups by schools and by classrooms. Training materials for use with the experimental groups consisted of three experimenter created booklets. Children were introduced to three question-answer relationships (QARs) through teacher explanation, diagrams, and brief 50-100 word passages. Test materials consisted of three approximately 700-word long passages, with 18 comprehension questions (6 for each QAR category) for each passage. Parallel versions of each passage were constructed for each grade level. Teachers whose pupils were involved in the training groups received a half-day of inservice training on QARs, but teachers of controls had no instruction prior to pupil testing. Experimental children received approximately two weeks of initial training followed by six once-a-week maintenance lessons. Results indicated that while the training program was effective at both the fifth and eighth grade, the older subjects benefited as much from a 10-minute orientation to the concepts. Training was more effective with average to low ability pupils. Prompting pupils to use their knowledge of question-answer relationships was helpful in the fifth grade, but disruptive among the older pupils.

Patching, William; Kameenui, Edward; Carnine, Douglas; Gersten, Russell; & Colvin, Geoff. Direct instruction in critical reading skills. *Reading Research Quarterly*, Summer 1983, *18*, 406-418.

Compares a control and two experimental treatments, a direct-instruction approach and a workbook-with-corrective feedback approach, in training for three critical reading skills assessing the ability to detect instances of: 1) faulty generalization; 2) false causality, and 3) invalid testimonial. The 39 fifth graders who participated were randomly assigned to one of three groups; each group was then randomly assigned to one of three treatment conditions: systematic instruction, workbook-with-corrective feedback, or no-intervention control. When the three-day instructional intervention had been completed, students were given a specially designed critical reading test consisting of 15 passages designed to assess whether pupils could detect valid or invalid instances of an argument. Two other measures were developed also. Results of the critical reading test favored the systematic instruction approach over the workbook or control groups. Results from the two additional instruments were either nonsignificant or favored direct instruction.

Boodt, Gloria M. Critical listeners become critical readers in remedial reading class. *The Reading Teacher*, January 1984, *37*, 390-394.

Evaluates the effectiveness of a program emphasizing six critical listening skills on critical reading, listening, and thinking skills of 18 elementary school pupils, all reading below grade level. Children were from grades 4, 5, and 6 and were exposed to half hour daily lessons, each devoted to one critical listening skill. Selections used were all taken from modern children's literature. A control group of 16 below-grade-level readers received instruction from a basal reader. Instruction occurred for 18 weeks. Pre- and postmeasures utilized included the *Sequential Test of Educational Progress* (STEP): Listening and Reading, and *A Look at Literature: The NCTE Cooperative Test of Critical Reading and Appreciation*. The experimental treatment resulted in improved scores on the instruments; control pupils showed little or no gain.

Seaton, Hal W., & Wielan, O. Paul. A study of the effects of listening/reading transfer on four measures of reading comprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 106-107.

Compares the effectiveness of parallel lessons in listening and silent reading to a traditional basal approach to comprehension skills instruction. Fifth grade children (n =

174) from 16 randomly selected classrooms were taught reading for 70 sessions using either a traditional approach or a listening/reading transfer method. In this method two parallel lessons are designed by the teacher, the first of which consists of students listening to a selection and responding in specific ways, and the second of which follows a similar pattern with silent reading instead of listening. The silent reading lesson immediately follows the listening lesson. Children were pre- and posttested on the *New Development Reading Tests*, which contains sections on reading for information, reading for relationships, reading for interpretation, and reading for appreciation. The experimental group showed greater gain scores for reading for relationships ($p < .05$), reading for interpretation ($p < .001$), and reading for appreciation ($p < .001$).

Radebaugh, Muriel Rogie. The effects of pre-organized reading material on the comprehension of fourth and fifth grade readers. *Reading World*, October 1983, *23*, 20-28.

Seeks to determine if differences in reading comprehension would result from three different grapho-syntactic organizations. The sample consisted of 20 fifth and 24 fourth grade pupils (19 boys, 25 girls), attending three different schools within a district. All had achieved vocabulary scores above the 75th percentile on the previous year's administration of the *Comprehensive Test of Basic Skills* (CTBS). Two groups were chosen: 1) good comprehenders who had both high vocabulary scores and high reading comprehension scores (above the 76th percentile), and 2) poor comprehenders who had high vocabulary scores but low reading comprehension scores (below the 76th percentile). Groups were matched on the basis of sex, vocabulary scores, and grade level. Materials consisted of three cloze tests constructed from three 330- to 350-word narrative passages. Each cloze test conformed to one of the following grapho-syntactic formats: 1) regular paragraph; 2) meaningful units; and 3) sentence fragments. Results indicated that the grapho-syntactic organization which divided sentences into meaningful units and one which divided sentences into random units were comprehended significantly better than was the regular paragraph for all groups of subjects. The syntactic nature employed appeared to be less critical than the fact that a unit smaller than a sentence was involved.

Raphael, Taffy E. Teaching learners about sources of information for answering comprehension questions. *Journal of Reading*, January 1984, *27*, 303-311.

Integrates and summarizes the findings of four studies dealing with teaching children about information sources for answering questions. The four studies included one descriptive study, one training study, and two instructional studies, all carried out with pupils in grades four to eight. The author concludes that teaching children a Question Answer Relationships (QAR) approach both improves the quality of responses and sensitizes them to task demands of questions. The greatest improvement after training occurs in children of average and low reading ability. The optimal amount of training needed by pupils varies with grade level. For fourth and fifth graders a week of training followed by six to eight weeks of practice appeared optimal. By grade eight, a 10-minute orientation was as effective as a longer training period.

Hanson, Jane, & Pearson, P. David. An instructional study: Improving the inferential comprehension of good and poor fourth-grade readers. *Journal of Educational Psychology*, December 1983, *75*, 821-829.

Gives instruction aimed at improving inferential comprehension of 20 good and 20 poor readers in grade four. Scores on the *Stanford Achievement Test*, Comprehension subtest, and teacher judgment were used to determine good and poor readers. Within each ability group, pupils were randomly assigned to experimental or control conditions. Instruction was provided for two days a week over 10 consecutive weeks. Experimental instruction included 1) a prereading discussion requiring pupils to think of something they had done that was similar to the events in the text and to raise one or more hypotheses about what would happen in the text, and 2) a postreading discussion centering around 10 inferential questions. Two posttests were given, both consisting of reading stories and responding to 16 open-ended questions, 8 literal and 8 inferential. The experimental treatment proved beneficial to poor readers in answering inferential questions but no effect was noted for good readers.

Carr, Eileen M.; Dewitz, Peter; & Patberg, Judythe P. The effect of inference training on children's comprehension of expository text. *Journal of Reading Behavior*, 1983, *15*(3), 1-18.

Assesses the effect of direct instruction on 75 sixth-grade pupils' comprehension of expository social studies materials. One treatment group received instruction in using the cloze procedure in combination with a self-monitoring checklist. A second treatment group received a structured overview with the cloze procedure and the self-monitoring checklist. A control group read the same passages but without the instructional aids. Instruction was segmented into three instructional units which lasted for a total of eight weeks. Test materials consisted of a pretest, three posttests (one per unit), a transfer test (based on different social studies materials), and a delayed transfer test (administered six weeks after instruction). All tests were composed of 10 literal items and 10 textually implicit items. Initial analysis, using analysis of covariance, found mixed results but tended to confirm a significant effect for treatments over no treatments. A secondary analysis examining treatment by ability interaction found the treatments to be more effective for below average readers.

Marshall, Nancy. The effects of differential instruction on story comprehension. *Florida Reading Quarterly*, March 1984, *20*(3), 3-7.

Investigates the relative value of the *Directed Reading-Thinking Activity* (DRTA) and the *Directed Reading Activity* (DRA) in promoting comprehension as assessed by long-term memory for story content. Pupils in one reading group from each of three classrooms were randomly assigned to each of the two reading conditions, with a total of 11 in DRA and 14 in DRTA. Two classes were fourth grade and one, a fifth grade room; all were receiving instruction from a fourth grade basic reader. Each teacher involved selected a different story. The DRA pupils were taught a complete Directed Reading Lesson with prereading instruction on appropriate vocabulary, guided reading, and follow-up questions to check comprehension. The DRTA groups were taught a complete Directed-Reading-Thinking Lesson with the addition of a follow-up activity in which individual children explained how they came up with their predictions. One week after each lesson, individual children each produced a verbal retelling of the story. The recalls were scored for completeness using the *Retelling Checklist* which allowed the quantification of the retellings according to the story elements each contained and the ease of recall for each element. Results were consistent across all classes and indicated that those children who were taught with DRTA remembered more of the stories after a week's delay.

Moss, M.J., & Watson, A.S.D. The effectiveness of different tasks in developing reading comprehension in 10- to 11-year-old pupils. *Reading*, July 1983, *17*, 105-110.

Employs three task situations (answering questions, devising questions, using cloze) to ascertain whether any might be of particular help in enabling children to comprehend printed material. Investigators visited and observed on six separate occasions as the subjects read passages on varying topics; passages became progressively more difficult. Analysis of variance was carried out on scores obtained from multiple-choice testing. In a second phase of the investigation, a no-task group was introduced. In this portion of the investigation, 48 fourth-year juniors in two large classes in a primary school were utilized. Results of both parts of the investigation suggested that the variable of task type did not make a significant contribution to the posttest scores obtained. An important limitation of all tasks involved according to the investigators was the lack of purpose in the reading situations.

Watanabe, Patricia; Hare, Victoria Chou; & Lomax, Richard G. Predicting news story content from headlines: An instructional study. *Journal of Reading*, February 1984, *27*, 436-442.

Conducts a study to determine if children who received specific instruction in reading newspaper headlines and prediction-making practice would improve in their ability to predict news story content from headlines. Participants were 46 eighth graders who were randomly assigned to either headline reading instruction or regular reading instruction for three weeks. At the end of three weeks, half of each group was then randomly assigned to prediction-making practice from headlines or to a control group. Thus, there were four groups all taught by the same teacher: control, headline reading instruction only, prediction-making practice only, and both instruction and practice. A pretest and two posttests, all based on the same 20 isolated headlines, were administered. Instruction occurred in 12 sessions of 20 minutes each for each three-week period. At the end of the first three weeks, children who had been taught how to read a headline increased scores significantly over the control group. At the end of the six-week period, results showed a significant effect for both headline instruction and prediction-making practice. The two treatments contributed separately to performance.

Creamer, Mary, & Phillips, Laura. The effects of concreteness and imagery on paired-associate learning and recall in the reading process. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 78-80.

Investigates the effect of 'imaging' on the reading comprehension of fourth year pupils. The experimental group consisted of below average children ($n = 18$) who received 30 minutes of mental imagery exercises per day for nine weeks. The control group of average and below average pupils ($n = 20$) used the experimental materials during the same period in the development of skills other than imagery. A paired-associate test adapted from previous research was given at the start of the study to indicate the method by which students learned best: pictures, concrete nouns, abstract nouns, and verbs. The experimental group scored higher than the comparison group on the pictures subtest ($p < .001$). All subjects were pre- and posttested on the Comprehension subtests of the *Iowa Tests of Basic Skills*. The experimental group had a higher mean gain score on comprehension than the control group ($p < .005$).

Graves, Michael F., & Hammond, Heidi K. A validated procedure for teaching prefixes and its effect on students' ability to assign meaning to novel words. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 184-188.

Investigates the effects of teaching prefixes on the vocabulary of seventh grade pupils. Subjects ($n = 190$) were divided into high, middle, and low ability groups, based on their scores on the *Nelson Reading Test*. Children were either taught prefixes, or taught whole words, or spent time free reading for 20-25 minutes for three days. A test was constructed to assess knowledge of the nine prefixes taught, understanding of easy words containing those prefixes, understanding of difficult words taught to both treatment groups, and understanding of difficult untaught words containing the prefixes. The test was administered to all three groups before and immediately following the treatment, and after a three-week delay. Both the prefix and whole word treatments produced higher scores on the two posttests than on the pretest ($p < .01$). The prefix group scored better than the whole-word group on the test of prefixes ($p < .01$), and on the test of transfer words ($p < .01$), for both posttests. No interaction of treatment and ability was significant, suggesting that children at all ability levels can learn prefixes.

McKeown, Margaret G.; Beck, Isabel L.; Omanson, Richard C.; & Perfetti, Charles A. The effects of long-term vocabulary instruction on reading comprehension: A replication. *Journal of Reading Behavior*, 1983, *15*(1), 3-18.

Investigates and replicates a study investigating the relationship between vocabulary instruction and reading comprehension. The present study included refinements to correct earlier problems. Forty-one matched pairs of fourth graders from a small urban school district served as subjects. Children were matched for combined scores on the Reading and Vocabulary subtests of the *Iowa Tests of Basic Skills*. Subjects were taught 104 difficult words in approximately 75 lessons of 30 minutes each, over a five-month period. Each set was presented, practiced, and tested during a five-day cycle. Two frequency conditions were designed: in one, "some", words were exposed 10 to 18 times; in the second, "many", words were exposed 26 to 40 times. Instruction included a range of tasks where pupils manipulated words to produce a deeper understanding and a flexibility in word use. Assessment focused on accuracy, fluency, and text comprehension, and included a control list of words in addition to the "some" and "many." Comprehension was assessed with story recall and multiple-choice questions. Instruction enhanced knowledge of the instructed words and lexical access. Instruction enhanced comprehension of stories containing instructed words.

Fleisher, Lisa S., & Jenkins, Joseph R. The effect of word- and comprehension-emphasis instruction on reading performance. *Learning Disability Quarterly*, Spring 1983, *6*, 146-154.

Compares three instructional procedures to assess their effects on reading comprehension and word recognition. Twenty-one subjects were selected from the fourth and fifth grades of three large elementary schools. Subjects were identified by teachers as learning disabled children who were performing a year or more below grade level in both reading comprehension and word-recognition accuracy. Assignment to treatment conditions was randomly done. Reading materials consisted of 24 consecutive stories from a third-grade basal reader. One approach emphasized comprehension, i.e., pupils were regularly questioned about the reading content and were not corrected when they made oral reading errors. A second approach consisted of word emphasis instruction, whereby subjects were corrected for all reading errors and received error-word drills daily. The third method combined aspects of the other two, including word-error corrections and drill along with comprehension questions. Oral reading accuracy, comprehension as determined by nine literal and three interpretive questions over three pretest and three posttest stories, and oral reading accuracy of new words in context and in isolation were assessed. No differences were found among treatment effects on comprehension and oral reading; however, on an isolated word-recognition measure the approaches which included error-word drill produced higher scores.

Alvermann, Donna E., & Boothby, Paula R. A preliminary investigation of the differences in children's retention of "inconsiderate" text. *Reading Psychology*, July-December 1983, *4*, 237-246.

Describes a study of the effectiveness of a graphic organizer on the ability of transition-stage readers to retain textual material lacking in unity. Thirty-three fourth graders, in intact groups of 17 and 16 for experimental and control purposes, respectively, were administered the *Cognitive Ability Test*, the *Iowa Test of Basic Skills*, and the *Children's Embedded Figures Test*. No significant differences were found between groups on these measures. Subjects read and recalled in writing a passage from their social studies text. The passage, which had previously been labeled as inconsiderate (lacking unity), contained portions of irrelevant material. Subjects in the experimental group were instructed in the use of graphic organizers in their social studies class for nine periods prior to receiving the experimental passage; those in the control group received no special instruction. Results indicated that pupils who were exposed to graphic organizers recalled only .11 of the total number of irrelevant idea units; controls recalled .26 of the irrelevant ideas. By comparison, experimental subjects retained 24% of the relevant information and controls retained 9%. Chi-square analyses of these differences were significant.

Level, June Saine. Booktalk power—A locally based research study. *School Library Media Quarterly*, Winter 1982, *10*, 154-155.

Describes an action-research type study in booktalking conducted with two groups of fifth graders (n=64). Group 1 included the low-reading ability pupils and received a 15-minute booktalk four days a week for three weeks. Thirty-four titles were booktalked, and records were maintained of the number of these books checked out as well as the number of non-booktalked books checked out. Lower ability children checked out 138 books; 100 checkouts were of booktalked books. High-reading ability pupils checked out 185 books; 69 checkouts were of booktalked books. Two boys in Group 1 checked out 17 and 18 books, respectively; two Group 1 pupils and one Group 2 pupil checked out none.

Bloome, David, & Golden, Cathy. Literacy learning, classroom processes, and race: A microanalytic study of two desegregated classrooms. *Journal of Black Studies*, December 1982, *13*, 207-226.

Studies patterns of social and linguistic behavior involved in literacy learning in the social studies and English classrooms of one group of low-track seventh graders in an inner-city desegregated junior high school. The research methodology employed was both ethnographic and microanalytic in nature; the study was conducted over a 10-month period and involved the analysis of videotapes and field notes. While the social studies classroom primarily involved pupil-teacher interaction on a message-by-message basis, the English classroom involved interaction among pupils working in groups and between the teacher and the class as a group. In the social studies class, the teacher controlled the oral teacher-pupil interaction by determining which pupils were asked questions, which pupils were allowed to be correct and which were not allowed to be correct. Black males, for example, were not asked to model correct responses for white children. In the English classroom, the context allowed opportunities for both black and white pupils to model correct answers for each other.

Rankin, Earl F.; Haase, Ann Marie; Stewart, Adela, & Howard, Elissa. The effect of a sequence strategy on teaching reading comprehension with the cloze procedure. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National

Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 201-206.

Investigates the effects of a teaching strategy on the reading performance of seventh grade children on the *Stanford Achievement Test* and a cloze task. Subjects (n=86) were administered the standardized test and a 50-deletion cloze test with every seventh word omitted, both before and after the six weeks of instruction. Training materials were 20 cloze passages of 200 to 250 words, with every seventh word deleted, written at a 6.5 grade level of readability. Children were randomly assigned to two experimental and one control group. The Visual Cloze group completed each passage while reading silently, with feedback as to exact-word correct answers for the last eight passages. The Sequence Strategy group listened to the teacher read the first 12 passages and wrote words for each blank. For the next four passages, the teacher again read the passages while the students read silently and filled in the blanks. For the last four passages, conditions were the same as for the Visual Cloze group. For the Sequence strategy group, discussions were held at each stage concerning successful completions and alternatives. Completions in the posttest cloze task were scored as exact word or acceptable synonyms. Differences were found between the groups for posttest cloze scores in terms of the exact word measure ($p < .001$) and an exact-plus-synonym measure ($p < .001$). On both the measures, the Sequence Strategy group scored higher than the other groups. The visual Cloze group scored better than the Control group on the exact measure, and vice versa for the exact-plus-synonym measure. No differences were found on the standardized achievement test.

McKinney, C. Warren; Larkins, A. Guy; Ford, Mary Jane; & Davis III, John C. The effectiveness of three methods of teaching social studies concepts to fourth-grade students: An aptitude-treatment interaction study. *American Educational Research Journal*, Winter 1983, *20*, 663-670.

Explores the effectiveness of three approaches to teaching social studies concepts: Merrill and Tennyson's model, Gagne's model, and a reading-recitation method, with 85 fourth graders from a southern suburban school district. Subjects were randomly assigned to one of the three treatment groups, all taught by experienced classroom teachers. Three concept lesson were presented, each followed by 30 items of a 90-item, yes-no test. Sixty items were photographs; 30 items were written statements. Total reading scores from the *California Achievement Test* were used to divide subjects into low, middle, and high-ability groups. A 3 x 3 x 2 factorial analysis of variance was used to test for main effects and for possible aptitude-treatment interactions. Means for the Merrill and Tennyson treatment were larger than means for the Gagne treatment and the reading-recitation treatment. No significant aptitude-treatment interactions were reported.

Slavin, Robert E., & Karweit, Nancy L. Cognitive and affective outcomes of an intensive student team learning experience. *Journal of Experimental Education*, Fall 1981, *50*, 29-35.

Evaluates the long term effects of three pupil team learning methods on certain cognitive and affective variables. Subjects were 456 fourth- and fifth-graders in 17 different classrooms in six rural elementary schools. The three team learning methods were Student Teams-Achievement Division (STAD), Teams-Games-Tournaments (TGT), and Jig Saw II. The three team methods differed in some respects, but all involved pupil teams working together to master academic skills and the use of quizzes and games to determine if children had learned the material, the computation of team scores, and the degree of improvement. The team learning methods were employed for a fall semester: STAD for all language arts instruction, TGT for all mathematics instruction, and Jigsaw

II for all social studies instruction. The dependent variables were academic achievement, assessed by the seven subtests of *Comprehension Test of Basic Skills* (CTBS); pupil attitudes; academic achievement accountability; anxiety, assessed by the *State-Trait-Anxiety Inventory for Children*; sociometric items; and self-esteem, assessed with the *Coopersmith Self-Esteem Inventory*. These measures were administered before and after the study. All data were subjected to analysis of covariance, using the pretest score as the covariate. On 7 of the 12 tests or subtests of affective measures, the experimental group's scores were significantly more positive than the control group's. The experimental group had significantly higher posttest scores on the reading vocabulary, language mechanics, and language expression subtests of the CTBS. The two groups did not differ significantly on the remaining four subtests.

V-7 Teaching reading—high school

SMITH, FREDERICK R., & FEATHERS, KAREN M. The role of reading in content classrooms: Assumption vs. reality. *Journal of Reading*, December 1983, *27*, 262-267.

Observes in two middle school social studies classes and two high school history classes to determine the function and role of reading. At each level, one class was high average (HA) and the other low average (LA) achievers as determined by grades. Classes were observed on consecutive days for periods of 13 to 41 school days. Observational data were supplemented with teacher and student interviews. Reading assignments were almost entirely text based and averaged 7 pages a week in the two HA classes and 15 and 26 pages a week, respectively, in the LA middle school and high school classes. In three of the four classes, some class time was permitted for reading assignments; none was allowed in the high school LA class. Teachers felt that students would not read unless induced to do so. The majority of students estimated that they completed less than half of each reading assignment, and some stated that they did not do the reading at all. Prereading activities were observed only in the HA classes. Only two instances of an extended introduction to reading a chapter were seen, both by the same teacher. Worksheets were used in all classes to focus reading and discussion. Postreading discussion consisted primarily of discussions centering on the worksheets. Little reading instruction was given. Students frequently skimmed textbook material to answer worksheet questions and often copied answers verbatim. There was no emphasis given to higher level cognitive functions. When interviewed, students indicated that information taught was not useful, and they saw little relationship between the class and their own lives.

ALVERMANN, DONNA. Content area reading assignments: How teachers and students spend their time. *Minnesota Reading Association Highlights*, June 1983, *5*(3), 1.

Cites evidence collected from 74 observed social studies lessons involving 10 teachers in grades 7-9 relative to time spent in presenting, monitoring, and giving feedback on assignments. It was found that teachers actually spent 46% of their time in assignment activities, but only that portion actually given over to presenting (i.e., giving directions, what the purpose was, and criteria for grading) correlated significantly and positively with subjects' subsequent performances on assignments. It was observed that reading to gain information in order to perform tasks requiring short-term as opposed to long-term retention, comprised nearly a third of the students' total class time activities. Reading or skimming to locate answers to questions on teacher-prepared worksheets consumed 29% of the total observed time. Whole class or small group discussion of content area reading assignments accounted for only 11% of the observed time.

SIEDOW, MARY DUNN. Reading in vocational education: A review of recent literature. *Reading World*, December 1983, *23*, 158-165.

Comments on findings culled from the literature in vocational education and suggests means for improving reading instruction in that area. The author first notes that secondary reading methods textbooks and authors of journal articles appear to have no common definition of the parameters of vocational education. In addition, research is cited indicating that, contrary to commonly held beliefs, there are reading demands placed on students in vocational courses. The author notes that findings of research investigating reading demands of vocational education should be used as the basis for developing appropriate reading instructional strategies.

HOLBROOK, HILARY TAYLOR. Prereading in the content areas. *Journal of Reading*, January 1984, *27*, 368-370.

Cites selected ERIC/RCS documents, including some research, which focus on the importance of prereading activities and provide a rationale for specific prereading strategies. Especially refers to prereading activities related to text organization, content schemata, and vocabulary.

BEAN, THOMAS W.; INABINETTE, NORMA B.; & RYAN, RENEE. The effect of a categorization strategy on secondary students' retention of literary vocabulary. *Reading Psychology*, July-December 1983, *4*, 247-252.

Introduces one group of 29 high school students in an introductory literature course to a *List-Group Label* (LGL) categorization strategy for vocabulary terms related to literary analysis and explores the effect on retention and recall of terms. A control group of the same size followed a like lesson structure, but did not employ LGL topic selection, listing procedure, grouping and labeling, explaining and justifying classification. Both groups were pre- and posttested on a 50-item instrument covering general understanding of literary terms and both were given four criterion-referenced quizzes administered throughout the 12-week sessions. The quizzes were designed to assess experimental and control group students' specific understanding of literary terminology in realms of plot, characterization, style, and setting and philosophy. On the posttest, the experimental group displayed significantly better scores on the literary terminology test than the controls. Results of the quizzes also favored the LGL group.

V-8 Teaching reading—college and adult

SNOUFFER, NANCY KENDALL, & THISTLETHWAITE, LINDA LEE. The effects of the structured overview and vocabulary preteaching upon comprehension levels of college freshmen reading physical science and history materials. *Journal of the Association for the Study of Perception*, Fall 1980, *15*(2), 11-16.

Examines the effects of structured overviews and prereading vocabulary instruction upon the comprehension of college freshmen reading history and physical science materials. Three sections each of a developmental reading course were assigned to each content area. There were 22 students per section. In each content area, three treatments were utilized: 1) structured overview prereading activity, 2) vocabulary prereading activity, and 3) no prereading activity. A 20-item test consisting of 10 literal and 10 inferential/evaluative questions was developed and administered in each content area. In the history content, the mean for the structured overview group was significantly greater than the mean for the other groups. The difference was found to be primarily in the inferential/evaluative comprehension area. No differences were found between the means of the vocabulary and control groups. Findings were similar for the physical science area except that in this content area, the vocabulary group mean was significantly greater than the control mean for upper level comprehension.

Evans, Ronald V., & Ballance, Collin T. The effects of sentence combining instruction on the reading comprehension and sentence structure of writing students. *Educational and Psychological Research*, Fall 1981, *1*, 203-213.

Compares measures of reading comprehension and sentence structure sophistication for two groups of college writing students. Two different approaches to teaching writing were employed with classes of juniors and seniors in a university setting. An experimental group received extensive training in sentence combining as a writing skill, while the control group worked on traditional composition exercises in a handbook and reader. Samples (n=15) from each class were randomly selected and their responses to standardized tests of reading comprehension and sentence structure collected. Instruments administered were the Reading Comprehension and Sentence Structure subtests of *Descriptive Tests for Language Skills*. Results of these tests were compared between, within, and among the subjects and the groups, using a multivariate analysis of vectors for six subskill scores. Results indicated that the sentence-combining measured group had higher mean scores on all six of the reading comprehension and sentence structure subskills assessed. However, only one of the differences, Placing Modifiers Appropriately, was statistically significant.

Flippo, Rona F. The need for comparison studies of college students' reading gains in developmental reading programs using general and specific levels of diagnosis. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 259-263.

Investigates the effects of a reading instruction program designed for students from a diagnostic as compared to a survey reading test. Subjects (n = 226) were undergraduates enrolled in a college reading course. All students were administered the *Stanford Diagnostic Reading Test* and the *Nelson-Denny Reading Test* before and after a semester of instruction. Subjects were randomly assigned to an experimental group, whose instruction was based on results from the diagnostic instrument, or control group, whose instruction was based on the survey instrument. The means of the gain scores of the experimental group were higher than those of the control group for six of the eight subskills measured by the diagnostic instrument ($p < .05$). No difference was found for gain scores on the survey test.

Flippo, Rona F. Do we need differential diagnosis at the college level? Maybe. *Western College Reading Association Journal*, Winter 1982, *2*(2), 1-3.

Compares the effects of specific and general diagnosis on college students' progress in selected reading subskills after developmental reading instruction. This instruction was prescribed from the specific or differential results of the *Stanford Diagnostic Reading Test* (SDRT) for some students and from the general and more traditionally used results of the *Nelson-Denny Reading Test* (NDRT) for other students. The selected subskills were literal comprehension, inferential comprehension, word meaning, word parts, phonetic analysis, structural analysis, scanning and skimming, and fast reading, as assessed by the SDRT and vocabulary and comprehension on the NDRT. Sample consisted of 226 entering university freshmen in 15 sections taught by nine different instructors; they were combined into larger experimental and control groups (n=112, 114, respectively). Students in both the control and experimental groups had the same treatment except for the amount of diagnostic or differential information available for the initial counseling and prescription of instruction. The means of the gain scores of the experimental groups were significantly higher than the means of the gain scores of the controls in the subskills of literal comprehension, inferential comprehension, word meaning, phonetic analysis, structural analysis, and scanning and skimming. There was not a statistically significant difference between the means of the gain scores of the experimental students and the controls of the subskill categories of word parts, fast reading, vocabulary, and comprehension.

Perez, Samuel A. A successful developmental reading program for college freshmen. *Reading Improvement*, Fall 1983, *20*, 233-235.

Describes a developmental reading program in a university which employed *American College Test* (ACT) composite scores to identify students with minimally developed reading abilities. Identified students were placed in a required course that met for two class periods weekly throughout a semester. Major objectives were to improve vocabulary, reading comprehension, and rate. At the end of the term's work, program evaluation was done with the 56 students who completed the course. All three course objectives had been attained: 1) a student opinion survey revealed that 93% of those involved indicated vocabulary improvement; 83% indicated amount of reading had increased; 2) a comparison of pre- and posttest scores on the *Nelson-Denny Reading Test* disclosed gains on all three subtests of vocabulary, comprehension, and rate.

Higginbotham, Linda A. Research component of the Morehead State University developmental studies program. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 125-126.

Reports data relating to participants in a university developmental studies program. Students are classified as academically deficient on the basis of composite scores from the ACT. Of those so classified, 54% were deficient in the three areas of English, mathematics, and reading, and 27% in both reading and mathematics. Students were pre-and posttested on the *McGraw-Hill Test of Basic Skills*. Significance levels for gain scores on various subtests are reported for two classes in each of two semesters. It is suggested that participation in the reading program had beneficial results in helping to overcome developmental lag.

Selegean, John Cornell; Thomas, Martha Lou; & Richman, Marie Louise. Long-range effectiveness of library use instruction. *College & Research Libraries*, November 1983, *44*, 476-480.

Evaluates the impact of a library instruction course on academic success. The program consisted of lectures on the organization of knowledge, the research process, and information sources reinforced by assignments within the library. A group of 234 students who took the course and a control sample of 234 students who did not take the library instruction course were included in the evaluation. Students in the two groups were matched for college major, class level, and combined SAT scores. Data collected included grade point average (GPA), student persistence (in quarters of attendance after completing the course), and graduation rates. Students who completed the course had an average GPA of .15 points higher and an average of 2.9 more quarters of attendance than the control group. There was no significant difference between groups for graduation rate.

Surprenant, Thomas T. Learning theory, lecture, and programmed instruction text: An experiment in bibliographic instruction. *College & Research Libraries*, January 1982, *43*, 31-37.

Involves 629 freshmen (327 in lecture and 302 in programmed instruction) at two midwestern universities in a bibliographic instruction investigation that used a three-element model emphasizing the interaction of library tools, styles or modes of instruction, and a theory of learning. A control group of 605 students who received no instruction was also utilized. Comparisons were made between lecture (with four librarians involved) and programmed instruction text for the teaching bibliographic indexes and basic card catalog information. Results of testing indicated a superiority of programmed instruction at the factual and problem-solving levels. Students who received instruction did better than controls.

Jewell, Timothy D. Student reactions to a self-paced library skills workbook program: Survey evidence. *College & Research Libraries*, September 1982, *43*, 371-378.

Compares college students' reactions to a media-assisted library skills lecture course and to a self-paced workbook covering similar materials. The study describes pilot results as well as reactions to revisions of the workbook. Data were collected by means of questionnaires given to students enrolled in all sections of an English course. For the preliminary try-out, subjects numbered 203 in the lecture classes and 250 in the workbook sections. Numbers for later sections, all workbook classes, were 743, 263, and 460. Workbook instruction was more favorably perceived by students than lectures; their reactions improved as the workbook program emerged; assessments of course-instructor support were more strongly associated with student reactions than was the academic status of the participants. Lower division students tended to be more favorably disposed towards the program than upper division students.

Sugrañes, Maria R., & Neal, James A. Evaluation of a self-paced bibliographic instruction course. *College & Research Libraries*, November 1983, *44*, 444-457.

Explains procedures followed in evaluating the instructional effectiveness of materials and methods used in implementing a self-paced credit course in library skills. Approximately 2,700 students went through the course in one academic year. Assessment strategies used included: multiple-choice assignments, an end-of-course test, and an attitudinal survey. Results indicated that the instructional treatment contributed the following: 1) successful completion of assignments after consultation with an instructional librarian, 2) a rise in test scores as measured by a pre- and posttest instrument, and 3) manifestation of positive student attitudes about the course.

Flippo, Rona F. Use of students' perceptions of reading/study skill improvement: A possibility for accountability in developmental programs. *Forum for Reading*, Summer 1982, 27-34.

Describes an experimental study that explored a possibility for reporting progress which would take into account students' perceptions of their gains and diagnostic assessment. Reading test score gains and students' perceptions of their gains were compiled on a group of 85 entering freshmen in a university setting. Subjects attended a developmental reading center and worked on reading and study skills for a minimum of one hour per week for a semester. They were pre- and posttested on alternate forms of the *Nelson-Denny Reading Test* (NDRT), and the *Stanford Diagnostic Reading Test* (SDRT) Blue Level. They were also surveyed with an in-house instrument at the end of the semester, before posttesting. In five areas of the SDRT, students did not show any gains, or showed negative positions. On only one area of the SDRT (Fast Reading), did students show observable significant gain. In two areas of the SDRT, a gain of one raw score point was indicated. However, in both areas tested by the NDRT (Vocabulary and Comprehension), students did show observable gains of five and three raw score points respectively. Results of student perceptions of their gains on the in-house instrument were compared with actual gains on the SDRT. In literal comprehension, 30 students perceived a gain and showed a gain; 25 students perceived a gain and did not show a gain; 16 students did not perceive a gain, but actually showed one; and 14 neither perceived nor showed a gain. This method of reporting student gains to administrators is recommended.

DENMAN, MARY EDEL. Reading and the academic content course. *Reading Improvement*, Winter 1983, *20*, 267-273.

Describes an endeavor in an academic skills center at a university to decrease the attrition rate of severely underprivileged students by integrating general education course offerings with courses in academic reading and writing. Focused specifically on individuals studying Natural Science, Reading, and Writing, that comprised a Core Group in the Educational Opportunity Program. In the group were 12 Asians, 10 Hispanics, and 2 blacks. Of this segment only three were native speakers of English. This high-risk aggregation completed the program, as hoped and even expected, with slightly better than a C average. Total scores on the *McGraw-Hill Basic Skill Test in Reading* increased from 10th percentile to 42nd percentile. Control groups showed gains, but not as dramatic as that of the Core Group.

KIEWRA, KENNETH A. Acquiring effective notetaking skills: An alternative to professional notetaking. *Journal of Reading*, January 1984, *27*, 299-302.

Summarizes the research related to notetaking, focusing on that which is germane to the advantages of professional and personal notetaking. The literature indicates that externally provided notes are helpful when material is presented rapidly or when students are physically incapacitated, of relatively low ability, or incomplete notetakers. Research was cited which indicated that students tend to be poor notetakers. Individuals who take more complete notes are higher achievers than those who take fewer or briefer notes. Students who review both personal notes and the instructor's notes achieve more than do individuals who review one or the other. Based on the research review, six recommendations are for notetakers.

MCANDREW, DONALD A. Underlining and notetaking: Some suggestions from research. *Journal of Reading*, November 1983, *27*, 103-108.

Surveys some of the research on notetaking and underlining and offers suggestions for classroom implementation based on the research. Findings from the literature on underlining suggested 1) the use of preunderlining by teachers, 2) specific instruction in underlining needs to be given, and 3) emphasis on underlining needs to stress higher level general statements as opposed to details. Included in the suggestions for notetaking are: 1) use of a spaced lecture format, 2) writing information on the chalkboard in order to make certain students record it, and 3) give students handouts with both full notes and space for student notes.

BEAN, THOMAS W.; WELLS, JO ANN; & YOPP, HALLIE. University students' rating of critical reading guides in history and philosophy. *Western College Reading Association Journal*, Spring 1983, *2*(3), 5-7.

Collects information on university students' perceptions of adjunct guide material used in combination with text reading assignments in freshman history and introductory philosophy. For a 10-week minicourse in history with 37 subjects, and in one of like duration in philosophy with 19, guides were developed. In history, the three types of material developed were selective reading guides, graphic postorganizers, and vocabulary concept guides; in philosophy, the varieties consisted of an anticipation guide, study guide questions, and graphic postorganizers. Over the course of the experiments, students completed evaluation forms on the guide materials as they acquired experience with each type. The three forms of history guides used in the minicourses received the following average student ratings out of a possible 100%: Vocabulary Concept Guides, 90%; Graphic Post-Organizers, 90%; Selective Reading Guides, 82%. Philosophy students offered the following average ratings: Graphic Post-Organizers, 81%; Study Guides, 65%; Anticipation Guides, 46%.

Baldwin, Julia F., & Rudolph, Robert S. Improving student recall of library information from slide/tape programs. *College & Research Libraries*, January 1982, *43*, 78-80.

Reports a year-long study involving 564 students enrolled in a business-report writing course who were subjected to a slide-tape program presentation comprised of two versions, one of which contained an interactive question/answer feature. This interactive feature was introduced at four important places: after presentations of books, periodicals, microfilm holdings, and government documents. An immediate 14 question follow-up test was administered, with eight of the questions covering materials included in the interactive feature. For the six questions, on material not covered by the interactive feature, no significant difference was found between the scores of the two groups. However, the experimental group's performance was significantly superior to the control group's on the material covered in the interactive feature.

Austin, Rose. The study guide: An invaluable tool for content study and reading improvement. *Western College Reading Association Journal*, Winter 1982, *2*(2), 3-4.

Conducts a 14-week study to determine the effects of study guides on content retention and on reading achievement of community-college freshmen in history classes and examines the impact of age, sex, and class time. Subjects were 225 students enrolled in a first-semester history course. Four classes totaling 89 students were assigned to experimental groups, and six classes number[illegible]136 students were desginated as controls. All were administered a history-content pretest (taken from the manual of the history instructors), and the inferential subtest of the *Stanford Diagnostic Reading Test* (SDRT). For 12 weeks, the control groups received their regular classroom instruction without study guides; experimental groups received regular classroom instruction and completed a two-page study guide for each of 20 chapters in their text. The study-guides consisted of vocabulary study, questions for discussion, statements for acceptance or rejection, and student questions. During the fourteenth week of the term, all were administered a posttest of history content and an alternate form of the inferential subtest of the SDRT. A significant difference favoring the experimental group over controls was found on both measures.

Bell-Metereau, Rebecca. A tale of two texts: Verbal and video. *College English*, September 1983, *45*, 494-499.

Asks if students gain more knowledge or experience stronger reactions when they read a play, or when they view the play on videotape. An excerpt from a play was presented to two groups of college freshmen: one read the excerpt; the other viewed the same section from a television production. The two groups received a preliminary set of questions intended to insure that they did not vary significantly in their attitudes toward reading and viewing or toward the subject matter of the excerpt. Following the reading and viewing, both groups took identical tests consisting of two sets of questions: a series of seven short-answer questions and a series of affective questions. The viewers of the videotape seemed to find the play more interesting and emotionally affecting, and a higher percentage actually changed their opinions as a result of viewing the excerpt. However, readers tended to recall details better than did viewers.

GORDON, BELITA, & FLIPPO, RONA F. An update on college reading improvement programs in the southeastern United States. *Journal of Reading*, November 1983, *27*, 155-163.

Reports data gathered through questionnaires from 213 institutions regarding the education, teaching methodology, and professional interests of persons teaching college reading improvement in the southeastern part of the country. Postsecondary reading programs and courses are no longer limited to junior and community colleges. Half the respondents had been teaching their particular courses for five or more years. They held advanced degrees but were not necessarily highly trained as college reading teachers. Few had completed any postsecondary level training, and a full 40% were teaching outside their primary area of training. Only 1% reported ever conducting research related to their present positions. Programs generally continued to follow a diagnostic-prescriptive model and there was a suggestion that instruction is no longer exclusively lab-oriented.

STETSON, ELTON G. Improving textbook learning with S4R: A strategy for teachers, not students. *Reading Horizons*, Winter 1981, *22*, 129-135.

Introduces S4R, a reading-study system designed to improve comprehending and remembering of information in textbooks and reports the results of three pilot studies of the effectiveness of S4R when presented with supervised practice. S4R stands for Survey, Read, Recite, Record, and Review. The subjects of the three pilot studies were: 1) 20 graduate secondary reading students, 2) 15 geologists and petroleum engineers enrolled in a rapid reading course, and 3) one seventh grade boy referred to a private clinic for low grades in school. In the first study, the students practiced only the Survey portion of S4R, and the results indicated an increase in comprehension. In the second study, the professionals took tests on passages presented in three conditions: 1) no reading, 2) practice in Survey only, and 3) practice in Survey-Read-Recitation. Test scores increased progressively from condition one (29%) to condition 2 (58%) to condition 3 (90%). In the third study, the subject's chapter test scores in science improved after tutoring in S4R. Concludes that schools should provide students with supervised practice of a study technique instead of just explaining any such technique.

NOE, KATHERINE SCHLICK. Technical reading technique: A briefcase reading strategy. *Journal of Reading*, December 1983, *27*, 234-237.

Develops and evaluates a reading process for adult work contexts, the Technical Reading Technique (TRT). The TRT, involving five prereading steps and four postreading analyses, was taught to 51 managers from departments across a large university. Participants were asked to respond to two questions related to the TRT: 1) "Which steps worked well for you?" and 2) "Which steps were difficult for you?" In general, the prereading checklist resulted in positive responses.

V-9 Teaching materials

Shannon, Patrick. The treatment of commercial reading materials in college reading methods textbooks. *Reading World*, December 1983, *23*, 147-157.

Analyzes six professional textbooks in reading to determine their authors' perspectives on the use of commercial materials. Three undergraduates, three graduate students, and the author participated in the analysis. They were guided by 10 questions covering four areas: physical characteristics of the presentation, scope and emphasis in the description, specific suggestions for the use of commercial materials, and the language used in describing the contribution of materials to classroom instruction. Although considerable space was devoted to commercial materials, only two of the texts presented discussions in more than one location. Numbers of reproductions from commercial materials varied markedly and minimal explanations were provided. Textbook authors tended to be relatively uncritical in their evaluation of materials. Their language encouraged the use of commercial materials and implied that such materials can teach reading.

Britton, Gwyneth, & Lumpkin, Margaret. Basal readers: Paltry progress pervades. *Interracial Books for Children Bulletin*, 1983, *14*(6), 4-7.

Analyzes 2,972 stories taken from 77 books in seven series published between 1980 and 1982 to determine major characters by gender and race. Males of all races appeared as major characters in 35% of the stories; females, 20%; both appearing as equals in 20% of the materials, with the remaining 25% devoted to subjects defined as "other" (abstract concepts, inanimate objects, cultural groups). Of all stories that focused on people, 20% were about people of color; of these, males appear in 60% of the stories, females in only 40%. Of the 5,501 careers depicted, 64% were attributed to Anglo males and 14% to Anglo females. Males of color provided 17% of the career roles; females of color, 5%. The most frequent roles for Anglo males were soldier, farmer, doctor, police officer, king, and scientist. For Anglo females, the most frequent roles were mother, teacher, queen, author, princess, and factory worker. Individuals with disabilities were portrayed in 2% of the stories, older people in 2%, and one parent families in 1%.

Seymour, Cathleen R.; Palmatier, Robert A.; Dulaney, Kathy H.; & Bailey, Mildred H. Vocabulary load in basal reading workbooks. *Reading Improvement*, Winter 1983, *20*, 295-298.

Seeks to ascertain the incidence of new vocabulary words in workbooks designed for primary grades. Workbooks for preprimer through 3-2 reading levels from three of the most widely used programs published in mid 1970 were looked into. Words in each workbook were listed and compared with lists of vocabulary words taught at each level and listed in the manual for teachers. In all three series, a large percentage of words appeared for the first time in workbook exercises. The percentage of words in the workbook not previously encountered in the basal series ranged from 43% at the first reader level to 64% at the 3-2 level for Series A; Series B ranged from no new words in the first preprimer to 84% at the 2-1 level; Series C ranged from 45% new words in the first reader to 65% in the second preprimer. The relationship between length and vocabulary load varied greatly among the three series. The Series C workbook at the 2-2 level contained 117 pages with 999 words; the other two series had 128 pages with 365 words and 95 pages with 391 words. Additional difficulty factors in workbooks consisted of a lack of clarity of directions, little used definitions, pictures difficult to recognize and/or interpret, extensive use of affixes, and inclusion of words in lesson tests that had not been encountered previously.

SMITH, CYRUS F., & HARRISON, MARGARET DRUMM. A comparative analysis of three graded word lists. *Wisconsin State Reading Association*, Winter 1984, *28*(2), 18-23.

Seeks to determine if three different graded word lists can be used interchangeably for assessment purposes and to ascertain if age, grade, or sex affects performance on the different lists. Examined were the *Wide Range Achievement Test*, Levels I and II, the *San Diego Quick Assessment*, and the *Schonell Graded Word Reading Test*. The three tests were given to 283 pupils; equal numbers were enrolled in grades 3-6 and 7-12, respectively; all were English-speaking and represented a cross-section of socioeconomic backgrounds. For the total sample, correlation coefficients for scores on the four measures ranged from .8614 (WRAT I with the San Diego) to .9207 (WRAT I with the Schonell). Mean scores on the two levels of the WRAT and the Schonell were relatively consistent, but the mean score on the San Diego was about a year below the others. Sex differences in mean scores were found only on the San Diego, with boys scoring lower than girls.

KEAR, DENNIS J., & GLADHART, MARSHA A. Comparative study to identify high-frequency words in printed materials. *Perceptual and Motor Skills*, December 1983, *57*, 807-810.

Examines the percentage of agreement among six word lists used for developing sight reading vocabularies. Additionally, compares the words common to a majority of the lists with words found in the preprimer through second grade levels of five basal series. The lists used were: 1) the *Dolch 220* which was compiled by including the 193 words common to the *International Kindergarten Union* list, the *Gates* list, and the *Wheeler and Howell* list, with 27 words common to two of these added by Dolch; 2) the first 220 words of the *Kucera-Francis Corpus*; 3) the *Harris-Jacobson Core Words*; 4) *Durr's 188 Basic Words*; 5) *Ekwalls' Basic Sight Words*; and 6) *Fry's Instant 300 Words*. The 1,558 words from these lists gave 501 different words. Of these, 112 appeared on all six lists; 48 on five; 42 on four; 56 on three; and 67 on two. For this study's purposes, a word was defined as high frequency if it appeared on four or more of the six lists. This guideline yielded a total of 202 words, which accounted for 63.7% to 75.6% of the total words used in the preprimer through the second grade levels of the five basal reading series.

BRISTOW, PAGE SIMPSON; PIKULSKI, JOHN J.; & PELOSI, PETER L. A comparison of five estimates of reading instructional level. *The Reading Teacher*, December 1983, *37*, 273-279.

Compares four ways of estimating instructional reading level and the actual placement of subjects in basal readers, using children from grades two, four, and six (n = 24 each). Administered were: 1) teacher-constructed informal reading inventories (IRI) from three series utilized; 2) the *Basic Reading Inventory* (BRI), commercially-devised IRI; 3) the *Metropolitan Achievement Test* (MAT); and 4) the reading subtest of the *Wide Range Achievement Test* (WRAT). The estimates of a child's instructional level obtained from these measures were compared with the level wherein instruction was given in basal reading groups. Results obtained pointed out that while all measures produced only estimates, the teacher-constructed IRIs, the BRI, and the MAT's reading comprehension subtest produced many estimates within one grade level of each other, whereas the WRAT score substantially overestimated a child's level. The IRI consistently gave lower median scores; for sixth graders, the median IRI was a grade lower than the BRI, MAT, and book placement. Instructional level estimates tended to correlate highly with each other. The MAT score most closely coincided with book level placement (47% exact agreement).

FORNESS, STEVEN R.; SINCLAIR, ESTHER; & GUTHRIE, DONALD. Learning disability discrepancy formulas: Their use in actual practice. *Learning Disability Quarterly*, Spring 1983, *6*, 107-114.

Compares eight discrepancy formulas widely used for identifying learning disabled children. A sample of 92 children who had been admitted to an inpatient elementary classroom for high risk children in the UCLA Neuropsychiatric Institute over a period of four years was used. Achievement test scores were based on the *Peabody Individual Achievement Test* and the intelligence scores were based on the WISC-R. Results showed that the percentage of children identified as learning disabled varied widely across formulas, ranging from a low of 10.9% to a high of 37%. Differences among formulas and factors to consider in selecting a formula are discussed.

MARR, MARY BETH, & LYON, KATHLEEN R. Passage independency: An examination of three informal reading inventories. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 283-287.

Investigates the degree to which questions on three informal reading inventories are passage dependent. Fourth grade pupils ($n = 34$) were administered the *Iowa Test of Basic Skills*, and stratified randomly into one of three IRI test groups containing an equal number of good and poor readers. Questions were taken from the *Classroom Reading Inventory*, the *Analytical Reading Inventory*, and the *Ginn 720* basal inventory. Children were administered the questions orally, for all grade levels, on a randomly selected form of the appropriate test. They did not have access to the passages from which the questions were derived. Performances across the three tests were different ($p < .001$). The CRI contained the greatest number of passage independent questions (26%), then the ARI (17%), and the Ginn inventory the fewest (11%). Questions which were passage independent fell into three categories: general information about familiar topics, word and phrase meaning already part of the children's oral vocabulary, and affective questions which provided clues via word associations.

JOHNSTON, PETER H., & ALLINGTON, RICHARD L. How sharp is a unicorn's horn? *Reading Research Quarterly*, Summer 1983, *18*, 498-500.

Raises some questions about the internal validity and external validity of a previously published research study. The study centered around the accuracy of pupil placement based on use of an Informal Reading Inventory (IRI). In the research being critiqued, the criterion measures used, one of which was teachers' placement of children, are questioned. Additionally, the scoring procedures utilized and the readability measures employed are considered matters of concern. External validity considerations include the extent to which IRIs are actually utilized in placing children.

KANTOR, ROBERT N., & DAVISON, ALICE. Categories and strategies of adaptation in children's reading material. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 320-324.

Investigates changes in children's reading materials that have been rewritten from original materials. Four passages from a reading laboratory were compared with the original sources in a sentence-by-sentence analysis. All the texts had been shortened, average sentence length was reduced, and scores on the *Fry Readability Formula* and the *Dale-Chall Readability Formula* had been lowered by between zero and five grade levels.

Although readability formulae had not been followed slavishly in rewriting, it was noted that vocabulary lists and restrictions on sentence and passage length had been given primary importance at the expense of factors related to conceptual readability. Examples are included of restructuring in terms of local organization, background information, and information valuable for evaluation.

IRWIN, JUDITH WESTPHAL. Coherence factors in children's textbooks. *Reading Psychology*, January-March 1983, *4*, 11-23.

Examines the levels and types of coherence and cohesion in the language of recent social studies textbooks written for grades 3, 5, and 8. Three 500-word and 300-word samples were taken from each text. Three types of analysis were conducted on each sample: 1) referential coherence between main clauses, 2) linguistic cohesion, and 3) the numbers and kinds of explicit and implicit connectives used. Generally, there were no differences among grade levels in terms of global cohesion or in terms of any individual cohesive element. Also, no significant differences were found in explicit or implicit connectives. Some differences were noted in terms of shared arguments across main clauses, with upper-level texts being less coherent than lower-level texts. There were large inconsistencies found within grade levels for the individual cohesive tie types as well as for the number of connectives.

WINCH, GORDON. The use of reading schemes: A comparative study. In Don Burnes, Anne Campbell, and Robin Jones (Eds.) *Reading, Writing and Multiculturalism*. Adelaide, South Australia: Australian Reading Association, 1982, 76-82.

Assesses the use of reading schemes in Australia. A survey of 291 primary schools explored the nature, range, and scope of the use of reading schemes at three age levels: kindergarten, years 1-2, and years 3-6. Results received from 171 schools suggest the seven most frequently used schemes were published in several countries, had generally been available for some time, and the older materials were used more widely than were the newer materials. Many schools used multiple schemes, both for basic texts and for supplementary texts. Grade level differences were found in rank orders of favorite schemes. Results of the Australian study are compared with British studies.

BECKER, JAMES. The Japan/United States textbook study project: In search of mutual understanding. *Social Education*, October 1981, *45*(6), 494-497.

Summarizes the findings of the final report of a jointly sponsored research project which undertook the analysis of social studies textbooks in the U.S. and in Japan. Results of the analysis indicated that texts in both countries tended 1) to deal inadequately with the background and issues leading to the war in the Pacific in World War II, and 2) to reinforce stereotypes. Japanese textbooks showed a predisposition towards portraying the U.S. as predominantly Anglo-Saxon; U.S. textbooks tended to pay little attention to postwar Japan, to overemphasize Japan's use of hydroelectric power, and to deal inadequately with complex issues and topics.

BERNDT, DAVID J.; SCHWARTZ, STEVEN; & KAISER, CHARLES F. Readability of self-report depression inventories. *Journal of Consulting and Clinical Psychology*, August 1983, *51*, 627-628.

Identifies the readability levels of 10 self-report depression scales using the Flesch reading ease formula and the Gunning index. Using the Flesch, the scales ranged in readability from fifth through twelfth grades; on the Gunning, the range was from third through twelfth grade.

MADDUX, CLEBORNE D.; IRONS, TOM; CANDLER, ANN; & IRONS, DONNA. Readability, interest, and coverage of 24 introductory special education textbooks. *The Journal of Special Education*, Fall 1983, *17*, 333-339.

Determines the readability, interest, and coverage of 24 introductory special education textbooks published from 1974 through 1982 and compares the results to a similar study focusing on books published from 1970 to 1975. The Flesch formula was used to determine readability and human interest, using twenty 100-word samples from each text. Median reading ease score was 28, compared to the earlier study's median of 21. Newer editions of the older texts were less difficult in all but three cases. Median human interest score in the present study was 10.17, contrasting with the earlier 8.0. Areas of exceptionality covered varied in the 24 books, with generally poor coverage of severe and profound handicaps, multiple handicaps, handicaps in early childhood, and culturally different handicapped children.

V-10 Teaching—grouping, school organization

EDER, DONNA. Ability grouping as a self-fulfilling prophecy: A micro-analysis of teacher-student interaction. *Sociology of Education*, July 1981, *54*, 151-162.

Examines the nature and extent of differences in the learning contexts of ability groups in a first-grade classroom over the whole school year. Observation, interviewing, and analysis of video-taped interaction during group lessons were used to identify major behavioral differences across groups and critical processes within groups. The classroom was observed an average of three days a week for the entire school year. Observational periods were about three hours in length and included all days of the week and both morning and afternoon sessions. Group lessons were video-taped on eight days during the year, with one video-tape for each of the four reading groups on each day. Thirteen pupils were placed in the two high groups; 10, in the two low groups. Thirty video-taped lessons were coded to determine the relative frequency of certain behaviors across group levels. Lower ability groups were found to have more inattentiveness, teacher management, and reading-turn disruptions and violations, contributing to lower levels of reading achievement. Those children who were likely to have more difficulty learning were assigned to groups whose social contexts were much less conducive for learning. The utility of ability grouping for instructing low ability students was questioned and the importance of examining the differential learning environments within schools was noted.

COLLINS, JAMES. Discourse style, classroom interaction and differential treatment. *Journal of Reading Behavior*, 1982, *14*(4), 429-437.

Discusses the influence of tracking on the type of reading instruction received by elementary school pupils in urban school systems. Children from two schools are included, a first-grade classroom in California, and a third-grade classroom in an inner-city Chicago school. In both schools, reading lessons were audiotaped at different times during the year. The California study showed an emphasis on decoding skills in the low group and on comprehension in the high group. For 16 lessons, the time spent on decoding skills in the high group was 17%, and in the low group, 47%. Figures for time spent on comprehension were 70% for the high group and 37% for the low group. Different intonational strategies were noted between the two groups when reading orally, and the teacher gave different cues to the the two groups. In the Chicago study, analysis of 12 lessons revealed that less average time was spent with lessons for the low group and they had less access to comprehension practice. A qualitative difference was found in the comprehension instruction received by the high group as opposed to that received by the low group.

FELMLEE, DIANE, & EDER, DONNA. Contextual effects in the classroom: The impact of ability groups on student attention. *Sociology of Education*, April 1983, 56, 77-87.

Examines the extent to which pupils' ability group assignments affect their rates of becoming inattentive. The data include behavioral measures of attentiveness obtained from 16 video-taped lessons of first grade reading groups in one classroom. The 23 pupils had been assigned to four relatively equal-size ability groups during the first week of school. Assignments were based on kindergarten teacher's recommendations. In the two high groups there were 13 children, and 10 in the two low groups. One half of the lessons were taped in the second month of school, and the other half in the seventh month. Attentive behavior of pupils during oral reading of other group members was coded. The higher the reading aptitude of a pupil, the lower the rate of becoming inattentive during reading group. Pupils in high ability groups had a lower rate of inattentiveness than those in low groups, even with reading aptitude controlled. Group effects on attentiveness were found to be larger than individual effects. Both reading length and reading errors affected attentiveness. Longer turns of oral reading contributed to inattentiveness; oral reading errors tended to decrease attention shift rates. In the spring, low group pupils become inattentive at more than three times the rate of high group pupils.

ROWAN, BRIAN, & MIRACLE, JR., ANDREW W. Systems of ability grouping and the stratification of achievement in elementary schools. *Sociology of Education*, July 1983, *56*, 133-144.

Analyzes the effects of two types of ability grouping systems on pupil achievement in reading, on peer contexts, and on differential instruction. Data came from 148 fourth grade pupils in a single urban district that used both cross-classroom and within-classroom ability grouping. Cross-classroom ability grouping began in the fourth grade when qualified pupils had the opportunity to participate in a program for advanced children. Those whose overall scores on the *Iowa Test of Basic Skills* (ITBS) were in the top 25 percentiles were eligible and they received all of their instruction in a self-contained room. In both high and low ability classrooms, pupils were further grouped by ability for reading instruction. Data collected came from 30 hours of observation within each classroom as well as from school records and ITBS scores. Both types of arrangements had direct effects on reading achievement, demonstrating that grouping schemes reinforce initial inequalities in achievement. However, the two forms of grouping had different effects on processes of peer allocation and differential instruction. Instructional processes and peer group formation tended to disadvantage pupils in lower strata of the cross-classroom ability group system but to work in favor of pupils in lower strata of the within-classroom reading group system. Pacing was affected by group assignment and pacing affected reading achievement.

CARR, THOMAS H., & EVANS, MARY ANN. Classroom organization and reading ability: Are motivation and skill antagonistic goals? In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of Reading*, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 67-98.

Investigates the relationships between classroom organization and early reading achievement. A sample of 10 classrooms was drawn from a population of 50 classrooms attempting to implement a British Infant School (BIS) model of instruction, and matched with 10 regular classrooms for grade composition (first, and first-second mix), degree of self-containment, and socioeconomic neighborhood. Classrooms were observed for four half-day periods using a time-sampling technique. The coding system included: 1) the content or skills areas of the activities in which the students were engaged; 2) materials employed; 3) personal interactions; 4) involvement in activites, and 5) participation in teacher-directed or independent activities. Teacher-led group activity was a major vehicle of instruction in regular classrooms, but occurred relatively infrequently in the BIS classrooms. Measures were taken in five areas of development: 1) Social skill—a social role-taking task and a measure of number of words in an interview; 2) Cognitive ability—a test of perceptual discrimination and short-term memory, a Piagetian task, and the *Raven's Coloured Progessive Matrices*; 3) Linguistic maturity—measures of mean utterance length, of syntactic complexity in oral language, and of expressive language quality; 4) Reading achievement—a cloze task from the *Stanford Achievement Tests*, and an informal reading inventory; and 5) Mathematics achievement—the *Stanford Achievement Tests*. No differences were found in social skill and cognitive ability. Mean scores for regular classrooms were higher than for BIS classrooms for expressive language ($p < .05$), math concepts ($p < .001$), math skills ($p < .05$), the Stanford cloze ($p < .01$), and the premier passage of the IRI ($p < .05$). Results are discussed in relation to observed classroom behaviors.

CAMERON, IAN. The correlation between reading programs and student achievement at the intermediate level. *Reading - Canada - Lecture*, April 1983, *2*(2), 13-21.

Attempts to discover if reading programs (basal, individualized, language experience) correlate with pupil performance in the intermediate grades. Involved were 860 children in 82 heterogeneously grouped sixth grade classrooms who were tested on a cloze test at the beginning of the school year. Teachers indicated on survey forms information on methods employed. Classes were again tested at the end of the school year, and achievement on the cloze test compared with the programs teachers used, both for classes as a whole and for proficient readers. Data on teachers seemed to indicate that successful teachers were likely to be women, that performance apparently decreases with experience, that number of years of university training is not significant, but that the reading courses taken are of assistance. Neither socioeconomic status nor class size were significant. Data analysis indicated that a slightly greater chance of success with most pupils was enjoyed by those teachers using a basal program. The individualized approach appeared more effective for proficient readers. Most of the teachers using an eclectic program did not use it properly for they seemed to use a basal with the entire class, for a period of time, then go to an individualized program with everyone for a time, and so on.

GIACONIA, ROSE M., & HEDGES, LARRY V. Identifying features of effective open education. *Review of Educational Research*, Winter 1982, *52*, 579-602.

Suggests a strategy for identifying effective versus less effective open education programs by using an unbiased estimate of effect size rather than the statistical significance of previously reported studies. Previous studies (153) are then examined to determine which features differentiate more effective open education programs from less effective. Studies were sorted into larger effect versus smaller effect categories for separate student outcome variables. Outcome variables were: self concept, creativity, favorable attitude toward school, reading achievement, mathematics achievement, and language achievement. Seven general features of open education were identified on which to compare the larger effect and smaller effect studies: role of the child in learning, diagnostic evaluation, materials to manipulate, individualized instruction, multiage grouping of students, open space, and team teaching. Studies were coded as to the presence or absence of these features. For self-concept, creativity and favorable attitude toward school, the more effective programs had a larger number of the features than the less effective program. The less effective programs had more features than the more effective programs for reading, mathematics, and language achievement. For the nonachievement outcomes, roles of the child, diagnostic evaluation, materials to manipulate and individualized instruction tended to differentiate studies yielding large effects from those yielding small effects. For achievement outcomes, the more effective programs were no more likely to include these features than were the less effective. Open space, multiage grouping, and team teaching did not differentiate effective from less effective open education programs.

V-11 Corrective and remedial instruction

Laffey, James L.; Kelly, Donna; & Perry, Barbara. The effect of repeated reading of taped literature on reading achievement. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction.* Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 189-193.

Investigates the effect of repeated readings of taped literature on the reading achievement of culturally different remedial pupils in the upper elementary grades. Subjects ($n = 20$) were in the fifth and sixth grades, and reading between 1½ and 2½ years below grade level on the *California Achievement Test.* A matched pairs design based on this test was used. The experimental group listened to taped stories for approximately 15 minutes a day for 13 weeks. After listening to a story two or three times, they were encouraged to read along orally until fluency was achieved. An audience for oral reading of the story was made available. Subjects were pre- and posttested on the *Gilmore Oral Reading Test.* There were no significant differences between experimental and control groups.

Laffey, James L., & Kelly, Donna. Repeated reading of taped literature: Does it make a difference? In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 80-83.

Investigates the effect of repeated listening to taped stories while reading upon the comprehension of less able readers. Subjects ($n = 9$) were from the 5th and 6th grades and all reading a year-and-a-half to two-and-a-half years below grade level. In addition, their independent oral reading was characterized by poor use of expression. Pupils spent 10 minutes a day listening to taped stories. After two hearings, they were encouraged to read along until fluency was reached, and then read to a school audience. Subjects were pre- and posttested on the *California Achievement Test* and the gain scores compared with each subject's gain scores for the year prior to the treatment. Scores for the treatment year were greater in comprehension and total reading ($p < .05$).

Freeman, Timothy J., & McLaughlin, T.F. Effects of a taped-words treatment procedure on learning disabled students' sight-word oral reading. *Learning Disability Quarterly,* Winter 1984, *7,* 49-54.

Relates effects of modeling vocabulary words using a tape recorder on six high school learning-disabled boys' sight-word reading. All boys had significantly low reading levels as determined by the *Woodcock Reading Mastery Test,* the *Slosson Oral Reading Test,* the *Wide Range Achievement Test,* and the *Gray Oral Reading Test.* Students were given 80 words to learn and a cassette tape recording containing the words. They were to read the words contiguously with the tape recording at the rate of 80 words per minute. Correct and error rates of words read in baseline and treatment were tabulated. Results indicated an increase in correct oral response rates of isolated word lists and a sharp decrease in each student's oral error rates.

ABELSON, A. GEOFFREY, & PETERSEN, MARCIA. Efficacy of "talking books" for a group of reading disabled boys. *Perceptual and Motor Skills*, October 1983, *57*, 567-570.

Investigates the effectiveness of the "talking book" on the reading-listening comprehension of 24 reading disabled boys drawn from grades 4, 5, and 6. The talking book was described as a read-along cassette tape-recording that accompanied reading material. Background music and effects were part of the experiment. Three different stories were presented. Methods of presentation included: 1) the talking book approach, 2) listening to a tape only of the story, and 3) attempting to read silently along as an adult read aloud. After each story, subjects received 10 direct recall questions to be answered orally. No significant differences in proficiency were detected.

SMITH, SHARON D.; SLATE, DONALD; & MORELOCK, BOBBIE. The effects of integrating language and spelling lessons with reading instruction on third grade students' achievement in vocabulary and reading comprehension. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 70-72.

Investigates the effects on third grade pupils of an integrated language arts program as compared with a traditional program in which spelling, language, and reading are treated as distinct subjects. Pupils from the same school (n = 80) were reading either the second grade, second reader or the third grade, first reader of a basal reading series. Two classes were each assigned to treatment and control conditions. In the control condition, a traditional approach was used, in which 30 minutes were devoted to spelling, 45 minutes to language, and 45 minutes to reading each day for 140 days. In the same period the experimental group had two hours integrated language arts instruction, in which spelling and language activities were based on the reading program. Children were pre- and posttested on the *Comprehensive Test of Basic Skills* on vocabulary and comprehension. There were no differences in achievement in reading between the two groups at the end of the year.

WEININGER, O. Early evaluation of learning disabilities. *The Ontario Psychologist*, August 1982, *14*(3), 16-21.

Discusses problems relative to defining and identifying children with learning disabilities. Cited at some length is a dissertation study completed in Ontario. The study evaluated and followed 383 children from pre-kindergarten entrance to pre-third grade level. In addition to the use of auditory short-term memory games and visual short-term memory games to assess word fluency, the *Denver Development Screening Test* and the *Gates-MacGinitie Reading Test* were administered. Three groups, one control and two experimental, were established. In experimental group I, information from the pre-kindergarten evaluation battery was discussed with the classroom teacher and used to help develop programs and curriculum. Following the initial evaluation, group I completed first and second grades without continued involvement in the study. In experimental group II, children were evaluated and teachers given consultant aid prior to kindergarten and grades 1, 2, and 3. Each year the consultant worked out plans and curricula for classroom activities with the teachers. Experimental group II children demonstrated significant positive differences compared to the control group in affective areas, self-concept, and reading achievement. Experimental group I also exhibited positive differences compared to the control group. Experimental II children also demonstrated positive differences over experimental I pupils at the end of grade two in reading comprehension and overall reading ability as well as self-concept and pupil motivation.

POTTER, FRANK. Teaching children to use the linguistic context more effectively. *Reading*, July 1983 *17*, 95-104.

Reports an initial evaluation of a technique design to improve children's use of context. The report is based on the use of the technique with one boy, selected from a class of second year British junior school children because of his inability to utilize context. During the intervention period of seven instructional sessions, emphasis was spent on helping the boy generate hypotheses for missing words on the basis of contextual information. Posttesting indicated an increase in the number of hypotheses generated as well as in their acceptability. Word attack skill showed an increase and comprehension on the *Neale Analysis* improved.

NAYLOR, J.G., & PUMFREY, P.D. The alleviation of psycholinguistic deficits and some effects on the reading attainments of poor readers: A sequel. *Journal of Research in Reading*, September 1983, *6*, 129-153.

Studies a sample of 60 first-year junior school children, ages 7 to 8, identified as being educational risk because of poor reading attainments. Children were individually tested on the revised *Illinois Test of Psycholinguistic Abilities* (ITPA), Raven's *Coloured Progressive Matrices*, and the *Burt (Rearranged) Word Reading Test*; group testing was done with the *Young Group Reading Test*. Using the ITPA scores, deficits were found in auditory closure (AC) and visual sequential memory (VSM). Three intervention programs were designed. The first consisted of 24 sessions of remedial instruction designed to alleviate weaknesses in AC and VSM. The second consisted of 24 sessions designed to provide an overall training in language development. A third group acted as controls and were given a simple number program. Children were randomly assigned to the three programs. Children received two 45-minute remedial sessions per week for 12 weeks. Criterion tests were administered at the end of the 12 weeks and again 10 months later. Both of the language groups received higher composite ITPA scores and higher reading test scores than did the control group. However, only the specific intervention language group changed its profile on the ITPA.

KATCHEN, LINDA. A study in the effects of paradigmatic language training and its transfer to the reading and writing performance of adult illiterates. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 95-97.

Investigates the effects of training in paradigmatic language structures on the paradigmatic language responses, the reading performance and the writing performance of adult illiterates. Subjects ($n=10$) were male prison inmates who read at less than a 5.0 grade level. Subjects were pre- and posttested on the *Oral Paradigmatic/Syntagmatic Language Inventory* and the *Woodcock Reading Mastery Tests* and completed writing assignments which were analyzed using a type-token ratio. Two posttests were completed; one immediately, and one five weeks after instruction. Training in paradigmatic language structures lasted 45 hours in one-and-half hour sessions twice a week. Subjects scored better on the immediate posttest and residual test than on the pretest of paradigmatic responses ($p < .05$) and in writing ($p < .01$). Reading performance increased between the pretest and residual posttest ($p < .001$).

RISKO, VICTORIA J., & REDELHEIM, PAUL S. Teaching reading disabled students to read for meaning: A research study. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 119-122.

Investigates the effects of training upon the reading strategies of fifth grade poor readers. The children ($n = 20$), who were enrolled in a remedial reading tutorial program, were pre- and posttested on the *Gilmore Oral Reading Test*, the *Stanford Diagnostic Reading Test*, the *Children's Attitude Toward Reading Test*, and by use of the *Reading Miscue Inventory*. Children were tutored one-on-one for 10 sessions by preservice teachers, who either followed the normal teaching program or implemented the experimental teaching treatment, which included exercises to encourage the use of multiple context cues such as cloze and modified cloze. No differences were found between the groups in gains scores, although both made significant gains ($p < .05$).

WITTE, PAULINE L. What research on prosodic cues might have to say about comprehension and automaticity theory. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 52-54.

Reports an informal study with four fourth and fifth graders on the role of prosodic cues in oral reading and comprehension. The subjects had consistently failed on tests of word attack skills and had consistently passed comprehension tests. In the first part of the study, each child read a passage orally and answered comprehension questions, preceded by either a practice oral reading of the passage or practice on a list of all the words in the passage until mastery. Differences for oral reading errors and comprehension were not significant ($p < .062$). In the second part of the study, the repeated reading practice was the same, but for the patterned practice the children listened to the passage being read as they followed along in the text. Differences on oral reading errors and comprehension are reported as significant ($p < .062$). Results are interpreted as evidence that prosodic cues have an influence on oral reading performance and comprehension.

SINATRA, RICHARD, & BLAU, HAROLD. Hemispheric routing of tactilely delivered words for dyslexic males. *Perceptual and Motor Skills*, August 1983, *57*, 179-184.

Investigates the effect of teaching spelling to dyslexic boys via a tactile modality. Subjects ($n = 9$) were aged between 11 and 17 years, and had been categorized as learning disabled, particularly for acquisition of written literacy. The boys were all right-handed, and measurement of lateral eye movements during face-to-face questioning indicated that they preferred a right-hemispheric processing style for solving mental problems. Thirty words that he could not spell were found for each subject. Ten words were presented to each boy's left-hand, 10 to the right-hand, and 10 were not taught. During the teaching of five words each session, the subject wore opaqued motorcycle goggles. Three-dimensional letters of each word were presented three times in sequence to the relevant hand, followed by unscrambling and writing exercises. The subjects took a written test of immediate recall following each session, and a delayed recall test after three to five days. At a fifth session, all 30 words were tested. There was no difference between scores for right-hand and left-hand conditions for immediate, delayed, and long-term recall, but scores for both treatments were greater than in the control condition ($p < .05$).

JACKSON, MERRILL S. A technique for the development of initial reading responses in the zero reader (severe dyslexia). *The Exceptional Child*, November 1980, *27*, 169-176.

Presents data on the efficacy of a two-phase program used with children who were designated as zero readers or children with severe reading disability (dyslexia). The program centers around the use of two pieces of basic apparatus designed to transfer information from short-term into long-term memory, the Learning Association Module and the Structured Alphabet. The intervention period consisted of three sessions of about two hours duration per week for five-and-a-half weeks. For three 11-year-olds, rates of acquisition varied according to IQ with the 43 IQ child acquiring 2-3 words per session, the 85 IQ child acquiring words at the rate of 8-10 per session, and the 100 IQ child acquiring words at the rate of 10-12 per session. Data were also presented on three younger children. Results were again positive.

JENKINS, JOSEPH R.; LARSON, KATHY; & FLEISHER, LISA. Effects of error correction on word recognition and reading comprehension. *Learning Disability Quarterly*, Spring 1983, *6*, 139-145.

Seeks to determine if two error correction procedures would differentially effect pupils' comprehension of text. Subjects were 17 children in grades 3-7, classified as learning disabled. Pupils read orally two passages daily for four days. One passage was designated as experimental, and the other, as control. For control passages, pupils were given the correct word when an error was made; for experimental passage, a drill procedure involving several steps was used. First the correct word was supplied when an error was made; the word was printed on an index card and pupils were asked to read all error words when the passage was completed. Drill continued until all error words from a given passage were read correctly on two consecutive trials. Dependent measures included an isolated word recognition test, word recognition in passage rereading, maze comprehension, and oral literal-level comprehension questions. The experimental drill procedure resulted in significant effects on word recognition in isolation and in context when compared with the control condition. The drill procedure was also more effective than the control procedure on the two comprehension measures.

BLANCHARD, JAY S. The role of single-word decoding skill on literal and inferential contextual comprehension performance. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 83-86.

Investigates the effect of training in single-word decoding upon literal and inferential comprehension of passages in which the words are read in context. Sixth grade pupils, who were reading at least 1.5 years below grade level, were ranked by IQ scores on the *Peabody Picture Vocabulary Test* and randomly divided into three groups by alternation: control, noncontent specific (NCS), and content specific (CS). The top half of each group as measured on the *California Achievement Tests* were designated poor readers, and the bottom half very poor readers. CS group members were taught words from the experimental passages using a flash card technique until they were mastered. NCS group members were taught words not included in the passages using the same technique. All subjects then read four passages and answered six literal and four inferential comprehension questions on each. Reading achievement and group membership had no effect on literal comprehension, but the CS group was better than the other groups on inferential comprehension ($p < .05$), and the NCS group, better than the control group ($p < .05$). Reading achievement also affected inferential comprehension ($p < .01$), and total comprehension ($p = .014$).

TAYLOR, BARBARA M., & NOSBUSH, LINDA. Oral reading for meaning: A technique for improving word identification skills. *The Reading Teacher*, December 1983, *37*, 234-237.

Supports an oral reading for meaning procedure involving 18 third graders reading on second grade level who had been randomly assigned to an oral treatment or to a conventional group. All met with a tutor one-to-one for sessions of 10 minutes, twice weekly for four weeks. Those concerned with oral reading for meaning read aloud to the tutor from material on their instructional level and received feedback according to a four-step procedure which stressed meaning. The control group read to the tutor from the same material, but they were not asked whether their miscues made sense. Unlike the subjects in the oral reading for meaning group, the control students were instructed to correct errors as soon as these occurred. Prior to the study there were no differences between subjects in the two groups in the percentage of semantically inappropriate miscues they self-corrected. However, following treatment, those in the oral meaning group self-corrected a significantly greater proportion of semantically inappropriate miscues than did those in the conventional group.

BURGE, PAUL D. Comprehension and rate: Oral vs. silent reading for low achievers. *Reading Horizons*, Spring 1983, *23*, 201-206.

Ascertains the influence of oral and silent reading on the reading rate and comprehension of 18 low-achieving fourth graders. Subjects scored below the 50th percentile on the Reading subtest of the *SRA Achievement Test*. Children were given six subtests of the *Analytical Reading Inventory*, three to be read silently and three orally. Selections corresponded to independent (grade 2), instructional (grade 3), and expected grade (grade 4) reading levels. Level of comprehension was assessed by a series of questions following each subtest. Words per minute and percentage of correct responses were computed for oral and silent reading. Oral reading comprehension was better than silent comprehension at the two more difficult levels. Oral reading rate was slowest in grade 3 level materials but comprehension was better at this level than at the other levels. Silent rate decreased with difficulty level.

DESANTI, ROGER J. Varied duration and intensity of massed remedial reading instruction. *Reading Improvement*, Summer 1983, *20*, 114-119.

Reports on the effect of remedial reading instruction varied by length of individual sessions and total number of hours. Thirty-seven children participating in a university summer reading program and 37 graduate student/ tutors were participants. Children ranged in age from 7 to 15, and graduate students were all experienced teachers. Children and tutors were randomly assigned and paired for placement in one of three groups: 1) two hours of tutoring daily for five days a week for five weeks; 2) one hour of tutoring daily for five days a week for five weeks; 3) one hour of tutoring daily for five days a week for three weeks. Instrumentation included the *Slosson Intelligence Test*, the *Gates-MacGinitie Reading Test* (Forms I and II), and the *Durrell Analysis of Reading Difficulty*. The remedial program centered on reading as a language-based communicative process. ANOVA results indicated that neither duration nor intensity affected performance.

SINDELAR, PAUL T. The effects of cross-aged tutoring on the comprehension skills of remedial reading students. *The Journal of Special Education*, Summer 1982, *16*, 199-206.

Compares the efficacy of several tutorial reading programs. The 53 pupils were randomly assigned to one of four treatment conditions: 1) hypothesis/test (H/T) instruction in small group from teacher (control); 2) H/T instruction from peer tutors; 3) oral-reading (OR) practice from peer tutors; and 4) word-recognition (WR) training from tutors. Grade placement of children ranged from 2 to 4. Pre- and posttesting was done on nonstandardized measures of WR, OR fluency, and cloze comprehension, and comprehension as determined by the Paragraph Meaning Subtest of the *Stanford Achievement Test*. For each treatment, instruction consisted of 20 fifteen-minute lessons. The only significant difference found in the results favored the H/T tutorial group over the WR tutorial group.

RUSSELL, TOMMY, & FORD, DOROTHY F. Effectiveness of peer tutors vs. resource teachers. *Psychology in the Schools*, October 1983, *20*, 436-441.

Reports an effort to determine whether mildly handicapped pupils working on a one-to-one basis with peer tutors would demonstrate a greater academic gain than pupils working in a small group with a resource teacher. The Reading Recognition and Reading Comprehension subtests of the *Peabody Individual Achievement Test* (PIAT) were used for data-gathering. Subjects were 16 mentally retarded children from resource rooms in each of two elementary schools, and 10 tutors from the seventh grade class in each school. The 16 pupils at each school were randomly assigned to either a tutor group or a teacher instructional group. Tutors, who were under teacher supervision, were given three hours of systematic training in activities such as teacher model tutoring, contingent praising, charting progress, and taking time sample. Tutors worked on a one-to-one basis one hour each day for three months; two teachers worked with a small group of six for an equal time. Gains in both recognition and comprehension on the PIAT were significant for both groups; however, gains in the tutor group were significantly greater than those in the teacher group in both areas.

MCLAUGHLIN, T.F.; WILLIAMS, RANDY LEE; CADY, MONEDA; RIPPLE, BILLIE JEAN; & EAKINS, DARWIN. Academic achievement for elementary students in the Northern Cheyenne Behavior Analysis Follow Through project. *Reading Improvement*, Summer 1983, *20*, 140-145.

Reports cohort data from the 1979-80 academic year with native American primary children (n = 181) taking part in the Northern Cheyenne Behavior Analysis Model of Follow Through Program. The number of cohort pupils per grade level ranged from 32 to 62. These pupils attended two different schools: one a public elementary facility located on the reservation and the second, a Bureau of Indian Affairs school serving students from the reservation and surrounding communities. The classroom structure in both was based on the open span concept and all rooms were staffed by certified teachers and from one to three aides. Basic components of the model included; a) small group instruction; b) development of a low student/teacher ratio; c) the use of program reading materials; d) a motivational system (e.g., token economy or contingency contracting); e) on site observation of model implementation by the Sponsor; and f) bi-weekly progress monitoring of student academic placement. A majority of the cohorts (10 out of 12) scored at or above grade level on the *Wide Range Achievement Test*. It was concluded that the Behavior Analysis Model of Follow Through appeared to generate at or above grade level achievement with low income primary aged children. It appeared that with the total program and its additional benefits (local control, increased parent involvement) high levels of achievement in the basic skills can be realized. Also, the Follow Through program provided a viable alternative to traditional Indian schooling.

JACKSON, MERRILL S. Stimulating reading responses in the zero reader. In Glenda Page, John Elkins, & Barrie O'Connor (Eds.) *Communication Through Reading*, Vol. 2. *Diverse Needs: Creative Approaches*. Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 79-93.

Describes two pieces of apparatus believed to be particularly effective in dealing with the zero reader: 1) *The Learning Association Module*, which consists of a display panel for the mounting of pictures or objects, an input reception panel, a response key, a feedback display window, a resistance system for an incorrectly selected key, and a device for setting up another trial; 2) *The Structured Alphabet*, designed to teach word analysis, synthesis composition, and matching of sample responses. The method consists of two phases: in Phase I, appropriate selection of the words to be taught takes place and the teaching of these words proceeds. In Phase II, the student has reached the stage wherein he endeavors to match a sample, tries to match a sample while coping with distractors, matching to memory, matching with additional distractors, and writing to sample. Three brief cases of boys with varying degrees of disability on whom the procedures were utilized are described. It stated that the rate of progress for a normal 11 year-old with a severe reading disability is in the range of 10-12 words per session. Treatment is approximately three sessions per week, and the cases described were treated from 5 to 16 weeks.

GRIMWOOD, LORRAINE M., & RUTHERFORD, ELIZABETH M. Sensory integrative therapy as an intervention procedure with grade one "at risk" readers—A three year study. *The Exceptional Child*, March 1980, *27*, 52-61.

Views the effectiveness of sensory integrative therapy as an intervention approach with 21 first graders identified as being at risk for future reading failure. Children were assigned randomly to either an experimental group (n=11) or a control group (n=10). Level of sensory integrative function was assessed by the 17 subtests of the *Southern California Sensory Integrative Tests* (SCSIT), the *Southern California Post-rotary Nystagmus Test* (SCPNT), and clinical observations of postular-ocular control. The intervention program continued for two half-hour therapy sessions per week for 24 weeks. Therapy sessions were conducted on an individual basis, and activities were used to provide controlled sensory input with emphasis on tactile, proprioceptive, and vestibular systems. Later in the program, activities were employed to encourage bilateral motor coordination, to assist automatic crossing the midline of the body, and to develop gross and fine motor coordination. At the end of the intervention period, children were given the *Iota Word Test*, a word recognition test, and the SCSIT and SCPNT were readministered. In grade two, the *St. Lucia Graded Word Reading List* was administered; in grade three, the *Neale Analysis of Reading Ability* and the St. Lucia were given. Experimental children achieved significantly higher scores on the reading measures than did controls over the three-year period.

POULSEN, ANDERS. An integrated teaching programme for the reading retarded. *School Psychology International*, September/October 1979, *1*(2), 9-13.

Describes a program for remediating reading problems in Denmark and gives general results of the program. Of 3,000 children in grades one to 10 in five schools, 111 participated in the reading program. Progress is reported as an average of seven months gain over the 12-week course. Before attending the reading class, these children had shown only a four-to-five months gain for every full school year. Even those children who made no appreciable progress were noted to work better than previously, to have improved working habits, to have learned approaches to tackling their study, to demonstrate greater self-confidence, and to find it easier to work on their own with special materials. Questionnaires sent to teachers and parents indicated considerable satisfaction with the program on the part of both groups. A meeting with 30 children who had completed the program resulted in a positive evaluation.

BRANWHITE, A. B. Boosting reading skills by direct instruction. *British Journal of Educational Psychology*, November 1983, *53*, 291-298.

Relates that 14 children, ages 8 to 12, from an urban middle school in Great Britain were divided into two subgroups exposed to a direct instructional program (DI) and diagnostic-prescriptive remediation (DPR), in the first phase of treatment. Children exhibited a range of 20-40 months' retardation in reading. The DI instructional package was DISTAR II; the routine remedial group experienced a criterion-referenced assessment of phonic skills, small group teaching of sound and word discrimination, individualized activities based on phonic word cards and a selection of phonically-based published reading materials. Reading assessment was carried out before intervention commenced and again at the end of each phase of instruction using the *Schonell Graded Reading Test*. Both programs had the same amount of time each day, and with the same teacher. Superior gains in the DI group led to both groups receiving direct instruction in reading during a second treatment phase. The program accelerated rate of gain in each group of subjects.

Bradley, Lynette. A tactile approach to reading. *Special Education*, December 1981, *8*(4), 32-36.

Illustrates the effectiveness of tactile teaching technique to aid disabled readers to master the alphabetic code. The approach utilized plastic letters to build words. Case histories of the techniques used with an 8-, a 9-, and a 16-year-old are presented as examples.

Lewis, Rena B. Learning disabilities and reading: Instructional recommendations from current research. *Exceptional Children*, November 1983, *50*(3), 230-240.

Presents a review of research in the realms of learning disabilities and reading instruction for children with such disabilities, first considering popular misconceptions. Identified are four of these misconceptions, and it is observed that these tend to persist in the minds of the public and in the belief systems of many practicing professionals. It is contended that learning disabled individuals are characterized by a failure to deploy cognitive resources effectively. Recent research on teacher effectiveness and the technology of direct instruction is examined in relation to current understanding of the nature and treatment of learning disabilities. Empirically based instructional strategies for the teaching of reading to the learning disabled are suggested.

Elliott, Joan. An investigation of variables that predict gain scores in Title I reading programs in Pennsylvania. In George H. McNinch (Ed.) *Comprehension: Process and Product*. First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 98-99.

Investigates variables that predict gain scores in Title I reading programs. School districts (n = 50) that used the *Gates-MacGinitie Reading Test* and had student populations over 150 in the public schools and were involved in Title I programs provided data on fourth grade pupils concerning growth in reading achievement as determined by normal curve equivalent (NCE) gain scores. Eight variables were considered: 1) percentage of boys in the program; 2) length of program measured in weeks; 3) classification of the residence area; 4) per pupil expenditure; 5) number of aides utilized per teacher; 6) years of teaching experience as a reading teacher; 7) pupil-reading specialist ratio; and 8) number of specialists for the fourth grade. Positive effects on reading achievement were found for school districts with fewer boys, fewer number of weeks in the Title I program, and larger number of pupils per reading specialist. Negative effects were found for districts with more aides. Metropolitan (other than center-city) pupils gained more than nonmetropolitan pupils.

V-12 Teaching—bilingual/other language learners

Venezky, Richard L. Non-standard language and reading—ten years later. In John R. Edwards (Ed.) *Language and Literacy: The Social Psychology of*

Reading, Vol. 1. Silver Spring, Maryland: Institute of Modern Languages, 1981, 193-205.

Examines research and policy concerning the teaching of reading to linguistically different populations during the decade of 1970-1980. Included is a review of selected research, an exploration of the impact of court decisions, an outline of federal policy, and descriptions of program developments and program evaluations. It is concluded that no nationally validated information is available to indicate that bilingual programs are increasing significantly the educational opportunities of non-English speakers, but that there is some evidence of progress in teaching literacy to non-standard-language students.

MUYSKENS, JUDITH A. Teaching second-language literatures: Past, present and future. *The Modern Language Journal*, Winter 1983, *67*, 413-423.

Examines some of the goals, techniques, and problems involved in the teaching of second-language literatures at all levels of instruction, as revealed in research reports of the past 15 years. Reviews only the teaching of foreign literature read in the target language, and excludes teaching English/American literature as well as teaching foreign literature read in English. Questionnaire returns touching on goals, approaches to teaching, assignments, grading, and materials used in undergraduate and graduate second-language literature classes, were solicited from institutions, resulting in 93 returns from 60 departments. Data gleaned revealed that the most important goals held were: 1) introduction of literary concepts (86%); 2) practice in reading and discussing literature (84.9%); and 3) basic understanding of important literary texts (79.6%). The favored approach to teaching the introductory course and undergraduate literature courses was primarily lecture with some discussion. Thirty percent reported using minimal lecturing and mostly discussion. The use of student presentations also emerged. In like vein, literature in graduate courses revealed attention to lecturing and audiovisual materials utilization. Concluded that several problems dominated this overview of approaches to teaching: 1) the need for training in the teaching of literature; 2) the lack of research on the reading interests of students and on methods of teaching literature; and 3) the lack of common goals for high school and university literature instructors.

KUPINSKY, BONNIE Z. Bilingual reading instruction in kindergarten. *The Reading Teacher*, November 1983, *37*, 132-137.

Describes and evaluates an English-Hebrew program which was designed to develop biliteracy in kindergarteners; the study was continued throughout the nine months of a school year and involved two kindergarten classes of 19 boys and 19 girls who had been arbitrarily placed in two groups. The *Peabody Picture Vocabulary Test* and the *Frostig Developmental Test of Visual Perception* were used at the outset, while at the end of the year participants took the *Beginning Assessment Test of Reading* (BATR) and the *Koallen Diagnostic Test of Elementary Hebrew Reading* (DTHR). Ninety-two percent of the pupils had scores that equaled or surpassed the BATR criterion of 70% or above, with an average score of 86% mastery. Sixty-one percent of the pupils equaled or surpassed the DTHR mastery criterion of 70%. Their average score was 71%. It was found that 39% of the kindergarten pupils' scores on the DTHR after the year of instruction equaled or surpassed the average score of children who had completed the first grade reading instruction in Hebrew. A correlation coefficient of .8259 was found between total scores on the BATR with the DTHR. It was concluded that kindergarten pupils successfully learned to read two languages concurrently but not necessarily on equal levels of reading ability for each language.

Schon, Isabel; Hopkins, Kenneth D.; & Vojir, Carol. The effects of Spanish reading emphasis on the English and Spanish reading abilities of Hispanic high school students. In Jacqueline C. Mancall (Ed.) Current Research. *School Library Media Quarterly*, Summer 1983, *11*, 326-328.

Abstracts two studies designed to discover whether allowing a special reading time using Spanish materials affects the English and Spanish reading abilities, attitudes, and academic self-concepts of students. In experimental classes, high school students were encouraged to read in a wide variety of Spanish materials while control classes did not have the special materials. Study 1 employed 168 Hispanic students, and Study 2, 104 Hispanic students. In both studies, the E-C differences on measures at the end of the study were small and non-significant. The authors note the great difficulty encountered in implementing the E procedure because of both teacher and student lack of enthusiasm. Hispanics born in Mexico were reported as more receptive than were others.

Croft, Don B., & Franco, Juan N. Effects of a bilingual education program on academic achievement and self-concept. *Perceptual and Motor Skills*, October 1983, *57*, 583-586.

Assesses the effectiveness of a bilingual education program. First, second, and third grade Title VII pupils (n=98, 90, and 51, respectively) were compared with same-grade-level non-Title VII pupils (n=41, 40, and 47, respectively). Employed the *Comprehensive Test of Basic Skills* (CTBS), the *Primary Self-Concept Inventory*; pre- and posttest measures of self-concepts were obtained from the Title VII pupils. Further, means obtained scores were compared with expected scores on the CTBS for 133 third grade, 116 fourth grade, and 103 fifth grade Title VII pupils. Title VII primary grade pupils' mean gain was 1.3 grade equivalents on the CTBS and the comparison group gained .93 grade equivalents between the seven month pre- and posttest period. Pre- and posttest scores on the self concept measure showed that significant gains were made on the Social and Intellectual subscales, but not on the Personal subscale. This gain occurred in the first year of the program; no significant changes were found in the following year. When CTBS scores were analyzed for third, fourth, and fifth graders, it was noted that all grade levels made or exceeded the expected gains on each subscale, except for the third graders in reading.

Phillips, Donald. Reading in a second language: Graphophonological problems and solutions. In Don Burnes, Anne Campbell, & Robin Jones (Eds.) *Reading, Writing and Multiculturalism*. Adelaide, South Australia: Australian Reading Association, 1982, 41-56.

Details the development and evaluation of a program to aid second language learners of English (LSLE) in learning to read English. Specific teaching alphabets (STA) were developed to be used in a Transitional Teaching Program (TTP). The development of the STAs began with studies of the phonologies of the three languages used: Finnish, Greek, and Italian. The STAs were then designed on the basis of the differences between the phonologies of English and the other languages along with input from biliterate speakers who were requested to write English text while using the orthography of their first language. The TTP was then conducted for two hours weekly over four months. Oral reading performance of the LSLEs reading each of the STAs and traditional orthography (TO) were analyzed using miscue analysis procedures. Comparison of pre- and post-results on reading TO showed statistically significant improvement on several error types analyzed

WEAVER, BRENDA, & SAWYER, DIANE J. Promoting language and reading development for two Vietnamese children. *Reading Horizons*, Winter 1983, *24*, 111-118.

Gives a detailed case report on the use of a language based reading program with two Vietnamese refugee children. Reading and/or prereading instruction was provided by the team of the classroom teacher and reading coordinator. The program was developed on the basis of comprehension of spoken English as a prerequisite for learning to comprehend what is read. Pre- and posttest scores on several language and reading instruments are presented. One child, an 8-year-old boy, was given the *Stanford Diagnostic Reading Test* in the fall and spring of his second year in the U.S. Pre- and posttest scores were: Auditory Vocabulary, 14th percentile and 24th percentile; Literal Comprehension, 29th percentile and 52nd percentile; and Inferential Comprehension, 21st percentile and 73rd percentile. His younger sister, at the end of her kindergarten year, achieved 85th percentile in Reading and 10th percentile in Math on the *California Achievement Test*.

BERNHARDT, ELIZABETH B. Three approaches to reading comprehension in intermediate German. *The Modern Language Journal*, Summer 1983, *67*, 111-115.

Compares the effect of oral and silent reading modes on reading comprehension of fourth semester German students. The 14 participants were characterized as good or poor in grammatical ability on the basis of scores on the 1981 *AATG Standardized Achievement Test* for Level IV. Two expository German passages were selected to be read orally and/or silently three times by subjects. Following each reading, a free written recall in English was asked for. A three-factor analysis of variance utilizing ability group, mode, and number of repetitions was performed on the data. Students with good grammatical ability had higher comprehension than those with poor grammatical ability. Silent reading comprehension was higher than oral reading comprehension. Comprehension improved from the first to the third reading. Regardless of passage, the text which was read orally was considered to be the more difficult of the two.

OBRZUT, JOHN E.; HANSEN, ROBERT L.; & HEATH, CHARLES P. The effectiveness of visual information processing training with Hispanic children. *The Journal of General Psychology*, October 1982, *107*, 165-174.

Asks whether visual information processing training improves performance on visual tasks and on academic performance for kindergarten, first, and second grade Hispanic children. A final group of 153 pupils were randomly assigned to either a training, a contrast, or a control group after being identified as poor visual information processors on the basis of the *Matching Familiar Figures Test* (MFFT). The training group was given 25 minutes of daily instruction for six to seven weeks from a commercial program. Lessons taught children terms to represent concepts and also to describe verbally what they were going to do. The contrast group received instruction in a variety of tasks such as cutting, coloring, and story telling, but no specific training in visual processing. The MFFT was given again at the end of the training program. Additionally, the *Bender Gestalt Test* (BGT), the *Boehm Test of Basic Concepts* (BTBC), and *Metropolitan Achievement Tests* (MAT) were administered. Six weeks after training the BGT was readministered. Results failed to show a strong relationship between visual processing instruction and MAT scores.

V-13 Tests and testing

V-13a Factors in test performance

Grise, Philip; Beattie, Susan; & Algozzine, Bob. Assessment of minimum comptetency in fifth grade learning disabled students: Test modifications make a difference. *Journal of Educational Research*, September/October 1982, *76*, 35-40.

Administers modified versions of their state's minimum competency test to 344 fifth grade learning disabled (LD) pupils and compares performance on the two forms. In addition, data from similar children tested with the standard version of the test were obtained. Test modifications included altered item format, unjustified lines in reading passages, and a higher example/item ratio. The modified versions were prepared in standard type size and in large print. Average score for LD pupils given the regular print version of the modified test was 83%; for the large print form, 79%. Performance of LD pupils was better on many of the skills when presented in the modified version as compared with the standard version.

Mason, George E., & Swanson, Beverly B. Why first graders err on standardized reading tests. *Reading World*, October 1983, *23*, 60-68.

Investigates whether first-grade pupils' oral error responses to standardized vocabulary and comprehension test items are haphazard or the result of identifiable factors. Twenty-nine children (20 whites, 9 blacks) were randomly drawn from first-grade classes in rural Georgia. Subjects were of average or above average ability as defined by the *Test of Linguistic Awareness in Reading Readiness*. Items from the *Metropolitan Achievement Test*, Primary 1, Form F, were selected for their ambiguity. For each vocabulary item, subjects were asked, "What did you think of when you saw this picture?" For comprehension items, the question was: "When you took this test, what did you think of as you read this item?" For vocabulary items, only 6 of the 32 responses did not reflect reasoning strategies. Error response analysis indicated response patterns were prevalent. Patterns were also present on responses to six of the nine items on comprehension. Preferred strategies for vocabulary were semantic-cued responses, using personal experiences, and decoding a distractor incorrectly; and semantic-cued responses and tunnel vision, attending only to information which caught their interest and/or attention, for comprehension.

Blanchard, Jay S.; Borthwick, Jr., Paul; & Hall, Ann. Determining instructional reading level: Standardized multiple choice versus IRI probed recall questions. *Journal of Reading*, May 1983, *26*, 684-689.

Compares pupils' performances on comprehension questions using a multiple choice format (standardized test) and a probed recall format (informal reading inventory) with subjects drawn from grades three and five (n = 60 each) and grade seven (n = 45). At each grade level, two passages and comprehension questions were selected from the *Multiple-Choice Reading Inventory*. Results showed that the difference in performance of the two types of question responses varied by grade level, although multiple choice questions seemed always easier. With one passage, pupils took a 10-item multiple-choice question test; with the other, the same question stems but an oral probed recall was used. The means of correct multiple choice responses at the three grades were 78%, 80%, and 79%, respectively. For probed recall, the means were 52%, 55%, and 62%, respectively.

V-13b Predictive studies

Breen, Michael J. A correlational analysis between the PPVT-R and Woodcock-Johnson achievement cluster scores for non-referred regular education and learning disabled students. *Psychology in the Schools*, July 1983, *20*, 295-297.

Administers the *Peabody Picture Vocabulary Test-Revised* (PPVT-R), Forms L and M, and the reading, mathematics, and written-language subtests of the *Woodcock-Johnson Psycho-Educational Battery* (WJ) to 28 learning disabled (LD) and 28 regular education (RE) pupils. Pupils were about nine years old. Coefficient correlations for the RE group's reading, mathematics, and written-language subtests, respectively, and Form L of the PPVT-R were .31, .12, and .33; with Form M, respective values were .17, .04, and .12. For the LD group, coefficients with Form L were .22 (reading), .22 (mathematics), and .18 (written-language); Form M showed coefficients of .46, .22, and .39, respectively.

Walsh, John; Marx, Ronald W.; & Sudmant, Walter. WISC-R factor score profiles and academic achievement: A test of Kaufman's profile analysis procedures. *Canadian Journal of Behavioral Science*, July 1983, *15*, 203-210.

Examines the contribution of WISC-R factor patterns to academic achievement for 272 children, ages 6-16, all referred for academic underachievement. Data collected included WISC-R subtest scale scores, Full Scale, Performance, and Verbal IQs; and standard scores on the *Wide Range Achievement Test* (WRAT) Reading, Spelling, and Arithmetic scores. Factor scores were computed by calculating average subtest performance from the subtests constituting each of the three factors: Verbal Comprehension (VC), Perceptual Organization (PO), and Freedom from Distractibility (FD). Factor scores which departed from one another by three points or more were considered as relative strengths or weaknesses in profiling each child. Multiple regression equations were computed for each of the achievement measures. There were 222 children who exhibited profile patterns where at least one of the three factor scores was different from the others. Results showed that only two of 10 patterns present in the data had a significant relationship to achievement. Both of these were negatively associated with achievement, but the size of their contribution to achievement variance was only about 2%.

Labercane, George D. Correlations of reading achievement and ability for learning disabled students. *Psychological Reports*, August 1983, *53*, 212-214.

Administers a battery of achievement tests and correlates scores with intelligence test and visual memory test socres. Subjects were 12 children, aged 9-6 to 12-8, enrolled in special classes. Children were given the *Schonell's Graded Word Reading Test*, *Schonell's Word Spelling Test*, WISC-R, the *Wide Range Achievement Test* Battery (WRAT) in reading, spelling, and arithmetic, and the *Test of Reading Comprehension*. Achievement scores in reading, spelling, and arithmetic showed highest coefficients of correlation with each other. Only the Schonell spelling scores showed a significant relationship with WISC-R IQ (-.59 with Full Scale IQ).

Battle, James, & Labercane, George. Relationship between achievement and ability. *Psychological Reports*, June 1982, *50*, 1284-1286.

Correlates performance of 124 boys and girls enrolled in grades two through nine on tests of academic achievement, intelligence, visual-memory ability and visual-motor ability. Eighty percent of the subjects had been referred for assessment by a school psychologist because of problems in learning; the remaining subjects had been referred for behavioral or emotional problems. All subjects were administered individually

Schonell's *Graded Word Reading Test*, Schonell's *Graded Word Spelling Test*, the *Monroe-Sherman Arithmetic Computation Test*, The WISC-R, the *Basic Visual-Memory Association Test* and the *Bender Visual-Motor Gestalt Test*. The average full-scale WISC-R IQ score of the group was 97. Correlation coefficients between IQ and the three achievement scores ranged between -.02 and .31. Achievement-visual-memory association coefficients ranged between .39 and .72. The Bender correlated with achievement between -.36 and -.47. The intercorrelation coefficient of the achievement scores was high, .70 to .91.

Singer, Marc G.; Vance, Booney; & Brenner, O.C. Predicting WRAT scores from the WISC-R for a selected sample of LD children and youth. *Journal of Clinical Psychology*, September 1983, *39*, 758-761.

Computes correlation coefficients among WISC-R subtest scores; three WISC-R IQs; and the Reading, Arithmetic, and Spelling scores on the *Wide Range Achievement Test* (WRAT). Subjects were 28 learning disabled (LD) children, ranging in age from 7-9 to 16-5. None of the coefficients between the WISC-R scores and the WRAT scores correlated significantly with each other. None of the three WISC-R IQs significantly predicted scores on the WRAT. Regression analyses indicated that none of the WISC-R subtests was a significant predictor of any WRAT subtest. At best, combining eight WISC-R subtests and excluding Similarities, Arithmetic, and Comprehension explained 17% of the WRAT Reading score.

Mishra, Shitala P. Validity of WISC-R IQs and factor scores in predicting achievement for Mexican-American children. *Psychology in the Schools*, October 1983, *20*, 442-444.

Determines the predictive validity of WISC-R IQs and factor scores for predicting achievement of 64 Mexican-American children in grades 3, 4, and 5. All children were given the WISC-R and the arithmetic, spelling, and reading subtests of the *Wide Range Achievement Test* (WRAT). Computed were product-moment correlation coefficients among IQs, three WISC-R factors, and WRAT scores. The three WISC-R factor scores used were Verbal Comprehension (VC), Perceptual Organization (PO), and Freedom from Distractibility (FD). WISC-R IQs gave low to moderate relationships with achievement scores (.34 to .51). WISC-R factor scores and achievement scores ranged from .09 between VC and WRAT Spelling to .31 between PO and WRAT Arithmetic.

Grossman, Fred M., & Johnson, Kathleen M. Validity of the Slosson and Otis-Lennon in predicting achievement of gifted students. *Educational and Psychological Measurement*, Summer 1983, *43*, 617-622.

Examines the capability of the *Slosson Intelligence Test* and the *Otis-Lennon Ability Test* to predict academic achievement on the *Stanford Achievement Test*. Subjects were 46 children who qualified for gifted programming in a midwest, urban public school district. Slosson and Otis-Lennon scores significantly predicted Stanford Vocabulary, Reading Comprehension, and Mathematical Concepts subtest scores. The Otis-Lennon accounted for a significantly higher proportion of the variance than did the Slosson. The multiple correlations for each of the criterion variables as predicted by the best linear combination of Otis-Lennon and Slosson IQ's were significant ($p < .05$) Regression equations are included for predicting expected Stanford scores based on obtained Otis-Lennon and Slosson scores.

PARAMESH, C.R. Relationship between Quick Test and WISC-R and reading ability as used in a juvenile setting. *Perceptual and Motor Skills*, December 1982, *55*, 881-882.

Administers the *Quick Test*, the WISC-R, and the reading subtest of the *Wide Range Achievement Test* (WRAT) to a group of 140 adolescents in a juvenile detention center. The product-moment correlation coefficient between the *Quick Test*, a measure of intelligence, and WRAT Reading was .53.

RYAN, JOSEPH J., & ROSENBERG, SAMUEL J. Relationship between WAIS-R and Wide Range Achievement Test in a sample of mixed patients. *Perceptual and Motor Skills*, April 1983, *56*, 623-626.

Computes Pearson product-moment correlation coefficients between the WAIS-R Verbal, Performance, and Full Scale IQs, WAIS-R subtest scaled scores, and *Wide Range Achievement Test* (WRAT) Reading, Arithmetic, and Spelling standard scores using 60 patients at a V.A. medical center. Subjects had been referred for a routine psychological examination. The Full Scale IQs yielded coefficients of .62, .60, and .76, respectively, with WRAT Reading, Spelling, and Achievement scores. Verbal IQs gave similar coefficients with the WRAT scores, but Performance IQs were .41, .42, and .66, respectively, with the three WRAT scores. The Information subtest score gave the highest coefficient (.68) with WRAT Reading of the various subtests on the WAIS-R.

CASKEY, JR., WILLIAM E., & LARSON, GERALD L. Relationship between selected kindergarten predictors and first and fourth grade achievement test scores. *Perceptual and Motor Skills*, June 1983, *56*, 815-822.

Assesses the predictive ability of *Otis-Lennon Mental Ability* test scores, group and individual *Bender Visual-Motor Gestalt Test* scores, and experienced teachers' ratings on a Likert scale assessing potential school success. Subjects were 116 middle to upper-class pupils and 63 Title One students in kindergarten. Scores were correlated with first-grade *Sanford Achievement Tests* from 152 of the same children and with 102 *Ohio Survey Tests* from these same children in fourth grade. Stanford and Ohio test scores were also correlated, as were the aptitude and achievement subtest scores of the *Ohio Survey Test*. For middle and upper-class children, IQs correlated positively and significantly with the Stanford and Ohio test scores in all but one instance. For the Title One group, none of the coefficients between IQ and Ohio test scores were significant, and IQs correlated significantly with the Stanfords for the total group and for the girls, but not the boys. Group Bender scores correlated significantly with first- and fourth-grade test scores more often than individual Bender scores. Teachers did as good a job of predicting success in school for the middle- to upper-class students as did the Stanford and Ohio tests. For Title One pupils, ratings correlated significantly with Stanford but not with Ohio scores. Stanford and all Ohio scores correlated significantly for middle-class children, but only moderately for Title One children. Coefficients between the aptitude and achievement sections of the Ohio were higher for the middle-class children than for the Title One children.

DAVIES, THOMAS R.V. "Project Screen"—A follow-up study of a preschool screening battery. *The Exceptional Child*, November 1980, *27*, 151-157.

Attempts to establish the validity of a preschool test battery used to identify at risk rural, preschool children. Seven main areas were assessed with 15 subtests: General Ability, Developmental Tasks, Visual Reception, Visual Discrimination, Hearing, Physical Development, and Speech and Language. Originally 109 preschool children, ages 4-0 to 5-9, were tested. Approximately 16 months later, 80 children, who were now completing grade one, were tested in reading, mathematics, and handwriting. The *Peabody Individual Attainment Test* was used to assess reading; a 30-item mathematics test was developed to assess number recognition, counting, numeration, and simple operations; handwriting was assessed by collecting a sample of three sentences copied from the chalkboard. Canonical correlation procedures were used in analyzing data. The best predictors of school test performance were measures of general ability, visual discrimination, visual reception, general development, receptive language, language concepts, and positional concepts. The *Draw-a-Man Test*, balance and posture, body image, perceptual motor match, height and weight contributed little to performance scores.

Snyder, Sharyne D., & Michael, William B. The relationship of performance on standardized tests in mathematics and reading to two measures of social intelligence and one of academic self-esteem for two samples of primary school children. *Educational and Psychological Measurement*, Winter 1983, *43*, 1141-1148.

Seeks evidence on the short-term predictive and concurrent validity of two measures of social intelligence and a self-esteem scale relative to two standardized instruments each in mathematics and reading. Two groups of children were involved, 74 who had participated in a two-month program to develop social cognition skills and 69 comparison pupils. Children were from grades 1, 2, and 3 in a middle-class suburban area. The social intelligence measures consisted of the 20-item *Evaluation of Behavioral Implications* (EBI) and the 34-item *Cognition of Behavioral Units* (CBU). The *Primary Pictorial Self Esteem Test*, a 26-item scale, was used to assess self-esteem. At the end of the training program, the *CIRCUS-Mathematics* and *CIRCUS-Reading* tests were administered. Modest levels of concurrent and predictive validity were found for both groups between the two social intelligence measures and mathematics and reading scores. The self-esteem measure was not predictive of academic performance.

Snyder, Vivian, & Elmore, Patricia B. The predictive validity of the descriptive tests of language skills for developmental students over a four-year college program. *Educational and Psychological Measurement*, Winter 1983, *43*, 1113-1122.

Asks whether the addition of the *Descriptive Test of Language Skills* (DTLS) could improve the predictive validity of the Academic Tests of the *American College Testing Assessment* (ACT) and high school percentile rank for 496 freshman special admissions students at a large midwestern university. Independent predictor variables included the DTLS Reading Comprehension Test, DTLS Vocabulary Test, DTLS Logical Relations Test, DTLS Total, ACT English Usage Test, ACT Mathematics Usage Test, ACT Social Studies Reading Test, ACT Natural Science Reading Test, ACT composite score, and high school percentile rank. Dependent variables consisted of Cumulative Grade Point Average (CGPA) at the end of each school year. The ACT composite score was the best predictor of CGPA at the end of each year and showed correlation coefficients ranging between .23 and .32 with CGPA. High school percentile rank yielded negative or nonsignificant validity coefficients with CGPA for all four years.

Saigh, Philip A., & Khairallah, Shereen. The concurrent validity of the diagnostic analysis of reading errors as a predictor of the English achievement of Lebanese students. *Educational and Psychological Measurement*, Winter 1983, *43*, 1149-1152.

Investigates the concurrent validity of the *Diagnostic Analysis of Reading Errors* (DARE) as a predictor of English proficiency of Lebanese students. Subjects were 40 post secondary students enrolled in an intensive English language preparatory course and 79 students in a private Lebanese secondary school. The test was administered to university students one week prior to their taking the American University of Beirut's *English Entrance Examination* (EEE) and to high school students two weeks prior to the end of the semester. Reliability coefficients for the DARE were .60 and .65, respectively, for the university and high school groups. Concurrent validity coefficients of overall DARE scores were .31 with the EEE for university students and .31 with English semester grades.

ANSLEY, TIMOTHY N., & FORSYTH, ROBERT A. Relationship of elementary and secondary school achievement test scores to college performance. *Educational and Psychological Measurement*, Winter 1983, *43*, 1103-1112.

Investigates the relationship of scores on the *Iowa Test of Basic Skills* (ITBS), the *Iowa Tests of Educational Development* (ITED), and the *American College Testing Program* (ACT) to college freshman grade point average (GPA), college cumulative GPA, and college graduate/nongraduate status. Scores on the ITBS administered in grades 4, 6, and 8 and scores on the ITED administered in grades 9 through 12 were obtained for a substantial portion of approximately 2,000 entering college students who were then followed for five-and-one-half years. Correlation coefficients were calculated between each of the three criterion measures and the Vocabulary, Reading, Language, Mathematics, and Composite ITBS scores; the Vocabulary, Expression, Quantitative, Reading Total, and Composite Total scores on the ITED; and English and Mathematics Usage subtest scores on the ACT. Correlation coefficients between the first semester GPA and composite achievement test scores for grades 6 through 12 ranged from .44 (grade 8) to .50 (grade 12); grade 4 ITBS composite and first semester GPA correlated .35. Coefficients for final GPA and composite achievement test scores in grades 6-12 ranged from .43 (grade 8) to .49 (grade 12). With ACT composite scores, a coefficient of .44 was obtained with final GPA. Point biserial coefficients between graduation status and test scores ranged from .18 (grade 6) to .29 (grade 12) and was .23 for the ACT composite.

BROZO, WILLIAM G.; SCHMELZER, RONALD V.; & SPIRES, HILLER A. The reading anxiety scale: A better predictor of college reading achievement. *The Journal of Learning Skills*, Summer 1983, *2*(4), 22-33.

Reports the development of the *Reading Anxiety Scale* (RAS) and determines its relationship to reading test scores. The RAS consists of 15 statements and requires students to respond to a modified Likert mode to the degree of uptightness the statements produced in them. Data were collected from 151 members of the associate and bachelor's degree freshmen in nursing classes at a large Southeastern university. They submitted to the RAS, the *State/Trait Anxiety Inventory*, and the *McGraw-Hill Reading Test*, with the anxiety measures being presented prior to the reading testing situation. The Pearson product moment coefficient of correlation between the score on the Paragraph Comprehension subtest of the McGraw-Hill and the RAS was -.57; for 78 readers who scored above the 50th percentile on the McGraw-Hill, the coefficient was -.44.

WOLF, JOHN C. Tests of general educational development as a predictor of 2-year college academic performance. *Measurement and Evaluation in Guidance*, April 1983, *16*, 4-12.

Explores the predictive validity of the *Tests of General Educational Development* (GED) for two-year college academic performance. Subjects were 300 first-year students attending a community college. Scores of 100 students, nonhigh school graduates who had been admitted on the basis of GED completion, were compared with 100 nonhigh school graduates who had not completed the GED, and a third group of 100 high school graduates. A Pearson Product-Moment Correlation coefficient between mean GED and first semester GPA was significant. Stepwise regression analysis indicated a significant positive relationship between the standard score of the five GED subtests and GPA. The obtained multiple R was significant. Using the subtest standard scores increased the prediction efficiency modestly, although GED test four provided more effective prediction than GED mean score. Prediction was improved when student age and number of years of high school completed were added as predictors, as well as when other GED subtest scores were included. Significant relationships were found for GPAs for both transfer and terminal degree programs, although increased efficiency was noted when calculated by degree type. Canonical analysis determined a significant positive relationship between standard score of the sections of the GED and major field and nonmajor field GPA for the transfer group. No significant differences were found on GPA for the three groups tested. Means of the three groups were nearly identical.

V-13c Cloze testing

NUNAN, DAVID. Cloze procedures as a measure of inter- and intra-sentential semantic relationships. *Reading Education*, Spring 1983, *8*(2), 5-14.

Describes two experiments designed to test the efficacy of a modified cloze procedure as a measure of the comprehension of semantic relationships beyond the level of the sentence. For Experiment 1, 80 undergraduates served as subjects with 94 year nine students at a metropolitan high school in Australia serving in Experiment 2. An 815-word passage from a junior high school science textbook was adapted for use by analyzing it for the semantic relationships contained. Sixty-four relationships were selected; 32 of these were within the sentence (S) and 32 had significance beyond the level of the sentence (T). Four versions of the passage were prepared. Version A replicated the passage and from it the S deletions were made; version B was the same passage with the T level deletions. Versions C and D had their sentences randomized and C contained S deletions while D contained the T deletions. For both groups, the sequential passage was significantly more difficult than the randomized passage, and the T level deletions were significantly more difficult than the S level deletions. It was concluded that, for research, the modified deletion system may prove of value.

RANKIN, EARL F., & THOMAS, SUSAN. Contextual constraints and the construct validity of the cloze procedure. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 47-55.

Reports two studies investigating the influence of familiarity upon contextual constraints, and the construct validity of the cloze procedure. Subjects were 284 eighth graders who were divided between two studies, one of which was a partial replication. A passage was prepared in four conditions: with every 5th, 6th, 10th, or 15th word deleted. Subjects completed the deletions either without prior exposure to, or having read, the text. The text was at an eighth grade level. The mean grade equivalent score for total reading on the *Stanford Achievement Test* was 9.0 for these subjects. In Study I, deletion patterns and familiarity affected cloze scores. In Study II, only familiarity affected the scores (no significance levels reported). In a post-hoc analysis of results from Study II, a higher score was found for function than for content words ($p < .0001$), and there was an interaction of word type with familiarity ($p < .05$) and word type with deletion ratio ($p < .005$).

Van Every, Kathleen. Use of the cloze to predict ease of success in a mastery learning situation. *Teaching of Psychology*, April 1981, *8*, 114-115.

Asks whether previously established cloze level percentages for independent and instructional level hold true for a college level course. The 223 students enrolled in the course over two academic years were given a 50-item cloze test developed from each of two required texts. Pearson Product Moment coefficients were then run between mean score on the cloze tests and the grade earned in the course. Additionally, analysis of variance procedures was used in analyzing data. The course was structured on a mastery basis and consisted of three units, each allowing a student to take three exams to meet a minimum criterion level of 70% for a "C" in the course. Students who were able to meet the minimum criterion level in only three exams had an average of 59.5% correct on the cloze; students who needed nine exams had 42.5% average correct fill-ins. Students not passing the course had significantly lower cloze scores than did students who earned a passing grade.

Parker, Tata J., & Parker, James L. Continuous assessment of the reading of retarded readers. In Glenda Page, John Elkins, & Barrie O'Conner (Eds.) *Communication Through Reading*, Vol. 1. *Focus on Comprehension*. Proceedings of the Fourth Australian Reading Conference. Adelaide: Australian Reading Association, 1979, 83-91.

Sums up selected research on cloze as a measure of comprehension and the use of cloze as an evaluation tool to assess and monitor the reading of retarded readers. Particular attention is given to previously published work in which the authors were involved. Based on the research reviewed, the authors recommend: 1) reading material to be used for continuous assessment should be extended in length; 2) several methods of pupil response on a cloze test appear suitable, but a self-scoring method may be most effective; and 3) story segments of about 600 words in length and using a minimum of a twentieth word substitution appear to give a reliable assessment, but shorter passages may be used if continuous measures are to be taken.

Heilenman, Laura K. The use of a cloze procedure in foreign language placement. *The Modern Language Journal*, Summer 1983, *67*, 121-126.

Recounts two studies investigating the use of a cloze test for placement of college students in foreign language classes. In Experiment 1, data were analyzed on 15 students who took the *Modern Language Association Cooperative Foreign Language Tests* (MLA) Reading and Writing subtests and a 44-blank cloze test in French. Subjects were enrolled in a first- or second-year French class. A Pearson's product moment correlation coefficient computed between cloze scores and MLA scores was found to be .94; a rank order correlation coefficient of .93 was found. For Experiment 2, subjects were 388 undergraduates enrolled in first-, second-, and third-year French classes. The same cloze passage as in Experiment 1 was used. As class level increased, performance on the cloze task increased. A discriminant analysis indicated that even though the means among groups were statistically different from one another, there was considerable overlap between groups. Results showed that 36.1% of students in the regular first-year program were misplaced as were 60% of second-year and 34.8% of third-year students.

Summers, Edward G., & Barnett, David. Developing appropriate correspondence study print materials for adults. *Reading - Canada - Lecture*, April 1983, *2*(2), 22-34.

Addresses itself to the appropriateness of the readability level of correspondence study materials written for small business operators. Twenty-eight prospective correspondence study students responded to a questionnaire designed to provide information about reading habits and attitudes and also completed cloze exercises over five passages representing a sampling of the instructional materials. The subjects' mean reading comprehension score on the *Stanford Reading Diagnostic Test II* (SRDT) was at the Grade 12.0 level on the norms. Dale-Chall readability levels on the five passages ranged from grade level 5-6 to 16+. Mean cloze percentages correct ranged from 37.2 to 69. About 20% of the material was written at the optimal level of difficulty, grade 11-12. Multiple regression analysis findings indicated that the greatest amount of variance in cloze difficulty (78%) was accounted for by the number of difficult words per 100 as determined by the Dale-Chall. Word length was found to be an efficient predictor of difficulty.

Ashby-Davis, Claire. Levels of certitude for educated guessing in strict cloze passages. *Journal of Reading*, January 1984, *27*, 318-323.

Analyzes both fiction and nonfiction cloze texts for levels of certitude in strict cloze passages. The percentage of cloze items that typically offered absolute certainty of choice, or a narrow range of choice, or a wide range of choice was examined. Additionally, the different parts of speech were studied to ascertain which fit more frequently into one level of certitude than others. The analysis was done on 1,600 omitted words, 800 each from fiction and nonfiction passages. Data indicated that good readers can be certain of their choice of words for about 50% of their fill-ins; if they have knowledge outside the text, they may then on the average fill in about 5% more blanks with certainty. Structural parts of speech made up 72% of the items that had only one possible response in fictional passages, with a range from 58% to 94% among the 16 separate cloze passages, and 69% in nonfictional passages, with a range from 61% to 84%. Among the structural parts of speech, prepositions, noun markers, and conjunctions contribute most to cloze certitude; among the referents, nouns contribute most. In average situations, an author's structure words are 2.5 times more likely than referents to be guessable with absolute certitude.

Green, D. R., & Tomlinson, M. The cloze procedure applied to a probability concepts test. *Journal Research in Reading*, September 1983, *6*, 103-118.

Ascertains the readability of a 48-minute Concepts Test, part of a research project investigating the Probability Concepts of English school children, through three cloze tests administered to 142 11- and 12-year-old pupils. Version X deleted one word in seven, but used blanks of equal length. Version Y deleted one word in seven, but used blanks close to the length of the deleted words. Version Z deleted different words than X or Y, and used the blanks of varying length to correspond to the deleted word. Some subjects received the cloze in an aural form; others read it silently. A predetermined list of acceptable answers and rules for marking was developed. Where the test had been completed silently, fewer questions were attempted so that scores were analyzed in two ways: questions 1-25 inclusive, and questions 1-10. High coefficients of correlation between synonymic scoring and verbatim scoring suggested they were equivalent in terms of discrimination so that synonymic scoring was used to test the hypotheses. Varying the set of words deleted did not materially affect the cloze score. Variable blank scores were not greater than scores from uniform blank scores. Subjects to whom the cloze test was read scored higher than those who worked it silently, suggesting that reading aloud enabled subjects to cover more questions. The probability concepts test appeared to be comprehensible and readable for the majority of pupils for whom it was devised.

V-13d Content analysis of tests

AARON, IRA E., & FLYNT, E. SUTTON. Assessment of comprehension by standardized, norm-referenced tests. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 4-12.

Investigates how reading comprehension is assessed by five standardized, norm-referenced tests: the *California Achievement Test*, Levels 12-19; the *Gates-MacGinitie Reading Tests*, Levels C-F; the *Iowa Test of Basic Skills*, Levels 7-14; the *Metropolitan Achievement Test*, Levels Primary II-Advanced II; and the *Stanford Achievement Test*, Levels Primary II-Advanced. Items of the comprehension subtests were analyzed in terms of the discourse form (narrative, expository, descriptive, and argumentation), the comprehension level assessed (literal, inferential, and evaluative), the types of skill assessed (e.g., drawing a conclusion, cause and effect), the estimated readability of each passage (using the *Harris-Jacobson Readability Formula*, the *Fry Readability Graph*, and the *Dale-Chall Readability Formula*), and the length of passage. The five tests varied widely in the amount of the four forms of discourse included, the levels of comprehension assessed, and length of passage. Three tests concentrated on assessing the comprehension of detail, main idea and cause-effect, with only one assessing across the nine comprehension subskill categories. Readability levels varied widely within tests, following no particular progression of difficulty, and across tests at comparable difficulty levels. It is concluded that care should be taken in the selection of tests in terms of the evaluation of what has been taught.

V-13e Test reliability and validity

RAYGOR, ALTON L., & FLIPPO, RONA F. Varieties of comprehension measures: A comparison of intercorrelations among several reading tests. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 13-17.

Presents the results of several validity studies done in connection with the standardization of the *Minnesota Reading Assessment*, which measures reading rate and retention, vocabulary, and paragraph comprehension. Reliability studies with 95 students produced coefficients between .900 and .941 for the two forms. Intercorrelation of part scores from a study with 101 students is reported. Comparisons with the *Nelson-Denny Reading Test*, Forms C and D, the *Stanford Diagnostic Reading Test*, Blue Level, and the *McGraw-Hill Basic Skills System Reading Test* were made with 101, 89, and 122 students respectively. Correlations varied from low to moderate. It is concluded that concurrent validity of the test was demonstrated at a satisfactory level.

HECKER, NELLY M.; JERROLDS, BOB W.; & BENTON, SIDNEY E. The space test as a possible new informal reading placement test. In George H. McNinch (Ed.) *Comprehension: Process and Product.* First Yearbook of the American Reading Forum. Athens, Georgia: The American Reading Forum, 1981, 86-88.

Investigages the validity of measuring reading comprehension through a space test, in which pupils mark word boundaries in a text which has a space between each letter. Pupils from grades three through six (n = 666) completed two space tests and two cloze passages derived from 250-word texts at each grade level. Readability was assessed using the *Fry Readability Graph*, and either the *Spache Readability Formula* or the *Dale-Chall Readability Formula*. On the space tests each word boundary correctly identified was scored as one point. Percentage scores were calculated for all tests. Scores on the cloze tests and space tests were correlated and found to be significant ($p < .01$) at each grade level. Mean cloze scores were below 30% for every grade.

FRY, EDWARD, & REYNOLDS, MARIANNE. A passage-dependent test to provide a different view of reading comprehension. In Michael L. Kamil & Alden J. Moe (Eds.) *Perspectives on Reading Research and Instruction*. Twenty-ninth Yearbook of The National Reading Conference. Washington, D.C.: The National Reading Conference, 1980, 264-267.

Investigates the reading comprehension assessment of children via a passage dependent and a standardized reading test. Subjects (n = 161) were 11th and 12th graders who had been tested in the 9th grade on the *Kuhlmann-Anderson IQ Test*. Students took the reading comprehension subtest of the *California Achievement Test* (CAT), or a test consisting of 25 four-choice multiple-choice questions about a 2100-word passage (PDT), in the traditional manner. They then took the other test in the four questions only, followed by reading of the passage, followed by questions again. When the tests were administered with questions only, the mean score on the CAT was 20.33 and on the PDT, 7.48. When administered in traditional fashion, the mean scores were 26.40 and 18.80. The gain scores were significantly different (level not specified). Correlation coefficients were completed between the IQ test scores and the reading tests. The coefficient for the CAT was .70, and for the PDT .47. It was concluded that a passage dependent test may give a purer measure of reading comprehension ability.

BREEN, MICHAEL J., & LEHMAN, JOANNE. Concurrent validity of the Woodcock-Johnson Mathematics and Reading subtests with a middle school learning disabled population. *Educational and Psychological Research*, Summer 1982, *2*, 173-179.

Determines the degree of relationship and difference between grade equivalent and standard scores obtained for a sample of 38 learning disabled children, ages 11-14, on three standardized instruments. Used were the *Key Math Diagnostic Arithmetic Test*, the *Woodcock Reading Mastery Tests* (WRMT), and the Mathematics and Reading subtests of the *Woodcock-Johnson Psycho-educational Battery* (WJ). WJ math and Key Math grade equivalent scores correlated .897; WJ reading and WRMT grade equivalent scores correlated .84, and standard scores .92. Grade equivalent scores on the two reading measures were discrepant from each other by at least six months 52% of the time; however, standard scores were within three points of each other 84% of the time.

LYONS, KEVIN. Criterion referenced reading comprehension tests: New forms with old ghosts. *Journal of Reading*, January 1984, *27*, 293-298.

Describes a validity study of the *Massachusetts Assessment of Basic Skills* (MABS), a criterion referenced reading competency test for secondary students. The pilot test on the MABS contained 55 multiple-choice items, each related to one of 14 skill objectives and one of 5 skill domains. The test was administered to 4,500 randomly chosen grade 12 students. A later form was given to 104 eighth graders. Positive correlation coefficients were found between domain subscales, even when corrected for attenuation. Factor analysis findings also supported the conclusion that the five corresponding subscores could not be used to diagnose comprehension subskill differences.

Horodezky, Betty, & Labercane, George. Criterion-referenced tests as predictors of reading performance. *Educational and Psychological Measurement*, Summer 1983, *43*, 657-662.

Assesses the validity of the Ginn criterion-referenced and mastery level tests (GRMS) to predict reading performance. A sample of 111 pupils from grades one, two, and three, stratified by reading ability (high, medium, low), were administered the following measures: 1) the GRMS; 2) an informal rating made by the classroom teacher; 3) the *San Diego Quick Word List*; 4) the *Classroom Reading Inventory* (CRI); and 5) the Phonetic Analysis, Word Reading, Structural Analysis, and Reading Comprehension subtests of the *Stanford Diagnostic Reading Test*. In general, it was found that the intercorrelations became less consistent as the grade level increased. Thus, while at Grade 1, the GRMS correlation coefficients ranged from .33 with teacher ratings to .59 with independent reading level on the CRI, by Grade 3 all coefficients tended to be lower than those at Grade 1.

Krawiec, Rosalind M., & Spadafore, Gerald J. Comparing the Brigance Diagnostic Inventory of Basic Skills and the Wide Range Achievement Test. *Reading Improvement*, Fall 1983, *20*, 230-232.

Administers the Word Recognition and Oral Paragraph Reading subtests of the *Brigance Diagnostic Inventory of Basic Skills* (BDIBS) to five pupils in each of grades one through six. Scores were then compared with scores on the *Wide Range Achievement Test* (WRAT). A Spearman Rho Rank Order coefficient of .96 was found between the WRAT and BDIBS Word Recognition. The r^2 statistic between the two was found to be 93.16, indicating that 93% of the two score distributions was measuring the same determinants. A coefficient of .77 was obtained between the two BDIBS subtests. Grade level scores between the BDIBS and WRAT were similar, but WRAT grade level scores tended to be somewhat higher.

Snart, Fern; Dennis, Steven; & Brailsford, Anne. Concerns regarding the Wide Range Achievement Test (WRAT). *Canadian Psychology*, April 1983, *24*, 99-103.

Raises questions concerning the use of the *Wide Range Achievement Test* (WRAT), especially with Canadian children. Scores on the reading subtest of the WRAT for 24 grade two, 22 grade four, and 26 grade six children in one Canadian city were compared with WRAT 1976 and 1978 norms. Both sets of norms tended to overestimate reading performance in terms of actual grade placement at all three grade levels. Overestimation ranged between one and two years and was especially noted in the lower grades.

Sheehan, T. D. Re-norming the WRAT: An urban On[illegible]io sample. *The Ontario Psychologist*, May 1983, *15*, 16-33.

Re-norms the *Wide Range Achievement Test* (WRAT), Level 1. Randomly selected schools and classes totaling 41 classes and 35 schools from the greater Hamilton, Ontario, area were used. The spelling and arithmetic tests were administered in groups, while the reading test was given individually. A total of 1,145 children in grades 1 through 5 were tested, 1,043 in groups and 102 individually. Comparisons are given with U.S. norms. Hamilton norms generally tended to be lower than U.S. norms in the early grades and higher in the later grades.

Manzo, Anthony V., & Casale, Ula Price. A preliminary description and factor analysis of a broad spectrum battery for assessing 'progress toward reading maturity'. *Reading Psychology*, April-June 1983, *4*, 181-191.

Describes the intermediate stages of an effort to assemble a battery of instruments to assess progress toward reading maturity. The battery, *Assessment of Reading and Language Maturity* (ALARM) consists of 15 subtests and has been administered and partially normed on over 800 subjects between grades 6 and 14. Subtests 1-3 are criterion referenced and are designed to determine if basic literacy has been achieved. They include basic tests of word recognition, vocabulary, and analogies. Subtests 4-6 correlate between .48 and .63 with comparable *Iowa Tests of Basic Skills* and include Syntactic Complexity, Modified Cloze, and Reading Comprehension. Subtests 7 and 8 consist of a measure of speed and accuracy and a measure of abstract verbal reasoning. Subtests 9-12 include Elaborative Thinking, Social-Emotional Factors, Teaching/Learning Range, and Cultural Compatibility. The last three subtests are designed to assess various aspects of critical reading. Reliability coefficients for the subtests range from .29 (Vocabulary) to .99 (Cultural Compatibility). Factor analysis revealed four factors: Developmental Reading, Major Bracing Elements, Complementary Elements, and Trace Elements.

Greenan, James P. The utility of student self-ratings and teacher ratings for assessing students' level of generalizable skills. *Community Junior College*, April-June 1983, *7*, 231-251.

Explores the feasibility and utility of student self-ratings and teacher ratings for assessing students' level of generalizable skills. Participants included 18 teachers and 161 students in a postsecondary vocational school. Five programs were selected: auto mechanics and machinist (male dominated), office occupations and interior design (female dominated), and accounting (balanced). Administered were student self-ratings and teacher ratings containing four scales including 15 mathematical skills, 22 communication skills, 18 interpersonal-relations skills, and 26 reasoning skills. Additionally, scores on the *Basic Skills in Arithmetic* (BSIA) and the *Nelson-Denny Reading Test* (NDRT) were collected. Based on these latter scores, students were ranked as high, average, and low mathematics and reading aptitude. One-way Analysis of Variance (ANOVA) was used to test for differences on the total student self-ratings and teacher ratings between the balanced, male-dominated, and female-dominated vocational programs. Two-way ANOVA was used to test for differences on students' self-ratings and teacher ratings of students' mathematics and communications skills by type of program and levels of mathematics and reading aptitudes. Mean score ratings of students and teachers on the total generalizable skills instruments were significantly different for students in male-dominated, female-dominated, and balanced vocational programs; male students rated their generalizable skills lower than female students or students in the programs balanced by sex. Both student and teacher ratings of generalizable mathematics skills showed differences between males and females and were consistent with differences in levels of mathematics aptitudes. In general all students, regardless of reading aptitude, rated their generalizable communications skills similarly. Thus student self-ratings of generalizable communications skills lacked sensitivity to program differences. Similar results were reported for teacher ratings. Construct validity of these ratings were, therefore, considered questionable.

Latham, W., & Parry, O. A criterion-referenced test of occupational functional reading ability. In Seamas Holland (Compiler) *Proceedings of the Fourth Annual Conference of the Reading Association of Ireland*. Dublin, Ireland: Reading Association of Ireland, 1979, 1-13.

Describes the development and validation of a criterion-referenced test of occupational functional reading ability to be given to students in their last year of school.

The test was developed as part of a project studying the functional reading required of 16-year-old school leavers on entering employment or training for a job. To devise the items for the test, a representative sample of firms was visited and samples of job-related reading materials collected. Six general job-types were identified. Three main types of items were constructed and classified according to a previously adopted system. Content validity was determined by panels from industry and commerce; items were then examined and further classified into four linguistic tasks. Over 100 middle-ability Fifth Form students in a comprehensive school took various sets of items in a pilot of the test. Based on these results, two forms of a test were constructed with items for each job-type, content-type, and linguistic task. Form A had a reliability coefficient of .83; Form B, a reliability coefficient of .18. To establish predictive validity, 150 fifth-form school leavers were given Form A and the *Edinburgh Reading Test*, Form 4. Subjects are being followed after leaving school and data are being collected from job supervisors relative to aspects of job performance.

ANDERSON, MARY J.; HAWES, KATHRYN; HEERMAN, CHARLES E.; JOHNS, KARNA M.; SEEBER, SUZANNE; SELTZER, KATHRYN; SHAFFER, JAN; & SILLIMAN, BEN. Reading attitudes of college students: Progress toward adequate assessment. *Reading Improvement*, Summer 1983, *20*, 120-124.

Describes a scale primarily designed to measure the college reader's attitude toward reading. The *Kansas State Reader Attitude Scale* (KSRAS) is a 40-item instrument having an alpha reliability coefficient of .89 based on a test population of 200 college students. The KSRAS is composed of five eight-item subscales: Free, Organized, Library, General, and Home. Results on the KSRAS were correlated with results on the *Nelson-Denny Reading Test* (r = .30) and the *Tennessee Self Concept Scale* (r = .24). Three of the KSRAS subscales were found to correlate substantially with each other. It was suggested that the General and Home subscales be deleted because of this, thereby leaving a 24-item scale.

WEED, KERI, & RYAN, ELLEN BOUCHARD. Alphabetical seriation as a reading readiness indicator. *The Journal of General Psychology*, October 1983, *109*, 201-210.

Evaluates the effectiveness of a new alphabet seriation task, as compared to a traditional seriation task, in predicting reading readiness. The new task involves a random subset of letters which the children are asked to put in order. Forty kindergarten pupils in the second half of the school year were given the following: 1) *Ravens Progressive Matrices Test*, 2) the Piagetian seriation task; 3) the Abilities-Visual Sequential Memory subtest of the *Illinois Test of Psycholinguistic Abilities*, 4) the alphabet seriation task; and 5) the Word Recognition subtest of the *Gates-MacGinitie Reading Readiness Test*. The seriation task was scored for accuracy, longest correct sequence of letters, and amount of time on task. Analysis of variance found middle and high seriation groups differed significantly from the low seriation group but not from each other. The availability of an alphabet card during the task increased the time spent working but not the accuracy. The alphabet seriation task correlated significantly high with the *Gates-MacGinitie Test* both before and after nonverbal intelligence was partialled out.

JONES, MARY SPAND. Reading skills of third graders in terms of behavior and other variables. *Reading Improvement*, Fall 1983, *20*, 181-186.

Explores the relationships among selected reading variables and observable classroom behavior, sex, race and socioeconomic status. A randomly selected group of 86 third-grade pupils were administered the *Stanford Diagnostic Reading Test* and later observed in their classrooms using the *Devereux Elementary School Behavior Rating*

Scale. Correlation coefficients revealed significant relationships between all of the reading subtests and the behavior scores for girls, higher socioeconomic status, and non-blacks, but no significant relationships between reading subtests and the behavior scores for boys, lower socioeconomic status, or blacks.

SNOW, JEFFREY H.; HYND, GEORGE W.; HARTLAGE, LAWRENCE C.; & GRANT, DANIEL H. The relationship between the Luria-Nebraska Neuropsychological Battery-Children's Revision and The Minnesota Percepto-Diagnostic Test with learning disabled students. *Psychology in the Schools*, October 1983, *20*, 415-419.

Administers to 40 learning disabled children the *Luria-Nebraska Neuropsychological Battery*-Children's Revision LNNB) and the *Minnesota Percepto-Diagnostic Test* (MPD) and computes correlation coefficients among the various scores. Subjects ranged in age from 8-5 to 12-9 and included 34 boys and 6 girls. The LNNB scales consist of Reading, Intelligence, Visual, Motor, Rhythm, Tactile, Receptive, Expressive, Writing, Arithmetic, and Memory. Intercorrelation coefficients among the 11 scores of the LNNB ranged from .07 to .71. The Reading Scale correlated most highly with the writing (.66), Expressive (.56), and Receptive (.52) Scales. Intercorrelation coefficients between MPD raw scores and LNNB scale scores ranged from -.18 to .65, with the Reading Scale coefficient being .37.

V-14 Instructional time

YSSELDYKE, JAMES E., & ALGOZZINE, BOB. Where to begin in diagnosing reading problems. *Topics in Learning & Learning Disabilities*, January 1983, *2*(4), 60-69.

Studies two groups of children, 30 third and fourth graders from 10 classrooms and 27 second graders in three ability groups, to determine how various aspects of their time were spent. Pupils were observed over two days, the older children during the entire time in school and the younger during reading period only. The Code for Instructional Structure and Student Academic Response (CISSAR), an observational system, was used to record classroom events. Observations were done by 11 women who responded to a newspaper ad and were trained in the system over a two-week period. About 177 minutes out of a total of 220 instructional minutes were devoted to whole group instruction, 42 minutes to small group instruction, and 2 minutes to individual instruction. Pupils engaged in about 10 minutes of reading silently, 3 minutes of discussing academic subjects, and one minute of reading aloud. For individual children, time allocated to reading ranged from 12.3 to 112.7 minutes per day. During the 87.3 minutes of scheduled reading time observed in grade two, an average of 81.1 minutes were allocated to reading. All three ability groups received most of their instruction via worksheets (26 minutes), games and flashcards (21 minutes), readers (19 minutes), and workbooks (11 minutes). High- and middle-group pupils received significantly more small group instruction, and low-reading-group children, significantly more individual instruction. The low-reading-group also received significantly more teacher approval than did the others, although the amounts for all groups averaged less than 30 seconds per reading period. Low-reading-group pupils spent significantly more reading time engaged in oral reading than did the other groups. For individual children, time engaged in silent reading ranged from 36 seconds to 26 minutes; time engaged in oral reading ranged from 0 to almost 8 minutes; and time engaged in passive responding, from 12 minutes to 43 minutes.

Fontes, Patricia J.; Kellaghan, Thomas; & O'Brien, Maeve. Relationships between time spent teaching, classroom organization, and reading achievement. In Sister Marian Walsh (Compiler) *Proceedings of the Sixth Annual Conference of the Reading Association of Ireland.* Dublin, Ireland: Reading Association of Ireland, 1981, 56-78.

Concerns itself with the effects of classroom organization and time spent teaching on reading achievement in Irish and English. Findings were based on two questions from a questionnaire responded to by 100 teachers. Teachers were asked to estimate the number of hours spent teaching English, teaching reading, and teaching Irish reading. The second question asked for the percentage of time spent daily 1) with the class as a whole, 2) by pupils working in groups on teacher-prescribed work, 3) by pupils working together on work of their own choice, 4) by pupils working individually on teacher-prescribed work, and 5) by pupils working alone on work of their choice. Pupils' scores on the following measures were collected: *Drumcondra English Test*, Level III; the *Drumcondra Irish Test*, Level III; and the *Drumcondra Verbal Reasoning Test*. Scores on the verbal reasoning correlated .85 with English reading and .66 with Irish reading. The amount of time spent teaching Irish reading showed a correlation coefficient of .25 with Irish reading scores; a negative coefficient (-.23) was found between the amount of time spent teaching English reading and English reading scores. The proportion of time spent in whole-class teaching was positively related to performance in Irish reading but not significantly related to English reading scores. Multiple regression analyses findings showed that verbal reasoning scores explained 43.7% of the variance in predicting Irish reading performance with hours spent teaching Irish adding another 3.5% to the value. Amount of pupil-chosen group work and pupil-chosen individual work also added significantly to the value. For English reading scores, 71.5% of the variance was explained by the verbal reasoning score, but hours spent teaching English and teaching reading did not make a significant contribution to explaining the variance.

V-15 Technology and reading instruction

Marsh, Merle. Computer assisted instruction in reading. *Journal of Reading*, May 1983, *26*, 697-701.

Summarizes the findings of research in computer assisted instruction (CAI) in reading. It is concluded that 1) there is disagreement about the value of CAI in reading, 2) CAI is perceived as beneficial by most teachers and students who use it, and 3) culturally disadvantaged children would benefit from CAI. Other conclusions are presented and suggestions for future use of and research in CAI are made.

V-16 Characteristics of effective schools

Wade, Suzanne E. A synthesis of the research for improving reading in the social studies. *Review of Educational Research*, Winter 1983, *53*, 46[illegible]97.

Identifies 29 empirical studies conducted between 1953 and 1980 which focused on teaching reading in social studies at the middle and high school levels. Studies were examined and classified by the type of treatment employed as well as by research design type and other characteristics. Criteria were employed to designate each study as rigorous or nonrigorous, significant outcomes analyzed and explained, and an attempt made to examine treatment characteristics most effective with particular groups in particular settings. The author then presents conclusions and recommendations based on the analysis. Treatments which were most successful were ones in which teachers were involved in designing the instructional program and were able to implement and modify the treatment during the implementation phase. Multidimensional treatments had a greater degree of success than treatments consisting of only one or a few activities or materials. Successful treatments also utilized the teacher in an active role in the classroom rather than relying on materials and exercises used by students alone or in small groups.

EDUCATION USA. Children need reading challenge. *Education USA*, November 16, 1981, *24*(12), 92.

Offers brief thumbnail sketches in news-release format on research concentrating on various basic comprehension, study, and thinking skills, that indicate a need for emphasis on programs that include the integrated, strategic use of these skills and not the use of skills in isolation from reading.

ROBERTSON, IRENE. *Language Across the Curriculum: Four Case Studies*. Schools Council Working Paper 67. London, England: Methuen Educational, 1980.

Presents case studies of four schools detailing the manner in which each developed and implemented a language across the curriculum policy. Each school was visited for a three-week block of time. Included in the data collected were tape recordings of committee meetings concerned with language and of classroom lessons; informal discussions with faculty and students; talks children entered into with each other; and teacher interventions. Excerpts of student/teacher, student/student, and other interaction patterns are presented as well as occasional samples of written assignments. The author notes that if a language policy is to work in schools 1) the head needs to recognize the policy as his/her direct responsibility, and 2) a sustained commitment by the head or the head's delegate is essential for the success of the policy.

V-17 History of reading instruction

MOORE, DAVID W.; READENCE, JOHN E.; & RICKELMAN, ROBERT J. An historical exploration of content area reading instruction. *Reading Research Quarterly*, Summer 1983, *18*, 419-438.

Provides an historical examination of recommendations for content area reading instruction. Observed that these proliferated during the first half of this century as modern education emerged from the tradition of mental discipline. The writings of humanists with emphases on reasoning processes and meaningful learning, those of the developmentalists which focused on individual growth, and the efforts of scientific determinists with assessments geared to promote efficient schooling and to gain insights into reading, as well as the endeavors of university-level reading people, all combined to demarcate the field of content reading instruction as a specialty. This research emphasis blossomed in the early 1900s, but waned in the middle years of the century because of the shift in basic studies to a reductionistic, behavioristic viewpoint. Makes the point that reading education textbooks, articles, and applied research continued to deal with learning from text, but few innovative theories or practices emerged. Content area reading instruction reemerged in the 1970s with the cognitive revolution in psychology. In a second major section of the paper, considers several issues confronting educators concerned with delivering content area reading instruction. Endeavored to clarify issues and identify points requiring additional inquiry. Included these issues: 1) Locus of Instruction (Direct, skills-centered; Functional, content-centered instruction); 2) Reading Demands of Various Subjects; 3) Study (Directing students; Training students); 4) Reading Materials; and 5) Age Focus.

VI. Reading of atypical learners

VI-1 Visually handicapped

LASASSO, CAROL J., & JONES, THOMAS W. Instructional procedures and reading materials used with visually impaired students. *Education of the Visually Handicapped*, Fall 1983, *15*, 75-85.

Investigates the instructional procedures and reading materials used in residential programs for the visually impaired. Data were collected via a questionnaire from 35 schools (representing an 89% response). The percentage of schools using a basal reader, a language experience, an individualized, or a programmed approach are reported. The basal reader approach was most frequently cited. The most common basal reading programs in use and their perceived strengths and weaknesses in relation to visually impaired children are also reported. Standardized achievement tests were the measures most frequently used to determine the students' instructional reading levels.

BELL, LORNA J. *The Large Print Book and Its User*. London: The British Library Association, 1980.

Studies whether or not the provision of large print reading material is meeting the needs of the visually handicapped in Britain. Data were collected by means of four main surveys of 1) librarians and libraries, 2) large print readers, 3) the community, and 4) link-men. The librarian sampling consisted of both questionnaire and depth interview data. Interviews were conducted with 116 individuals in 63 establishments who served various roles. For the large print reader population, findings were based on 602 readers and 200 interviews. Community information came from 500 individuals who responded to a four-question interview. For the last group, the link-men, data came from 48 interviews and 346 questionnaires. Where records were kept by libraries, an increasing demand for and expenditure on large print books was noted. Many hospitals were without libraries or without many large print books. Many elderly or visually handicapped respondents who were unable to read normal print were unaware that an alternative existed. All groups were dissatisfied with the range of books available but were pleased with the books themselves. The elderly complained primarily about the number of large print books available while the younger visually handicapped respondents wished for a wider range. Weight of books was a complaint among frail, arthritic, and bed-ridden readers, few of whom were aware of or utilized book-rests. Of the general public, only 30% had seen large print books.

HISLOP, DAVID W.; ZUBER, B.L.; & TRIMBLE, JOHN L. Characteristics of reading rate and manual scanning patterns of blind Optacon readers. *Human Factors*, August 1983, *25*, 379-389.

Investigates the line-changing time, number of regressions, the regression magnitude and reading rate of blind readers using the Optacon with a variety of texts. Adult subjects (n = 10) read 10 of 35 texts, which were at varying difficulty levels, using the Optacon, an electronic reading aid used by blind readers. Text-scanning hand movements were monitored during reading. The time taken to change lines, the number and magnitude of regressions, and reading rate, in letter spaces per minute and words per minute, were measured. Text difficulty affected the magnitude of regressions ($p < .05$), and reading rate in words per minute ($p < .05$).

Krischer, Christof C., & Meissen, Ralf. Reading speed under real and simulated visual impairment. *Journal of Visual Impairment & Blindness*, October 1983, *77*, 386-388.

Investigates the effect of real and simulated visual impairment on the reading speed of adult subjects. Approximately 30 normally sighted subjects and 72 partially sighted subjects orally read text presented on a screen at a variety of speeds. The visually impaired adults had either normal visual field, tunnel vision, or central scotoma. Normally sighted subjects read either with the image blurred to different degrees, or with the light intensity varied. For both types of simulated impairment, reading speed decreased with the degraded visual input in order to maintain perfect performance. With blurring, reading speed decreased sharply if visual acuity was reduced below 10-15%. With dimming, change of reading speed with visual acuity was more gradual over the whole range. For visually impaired subjects, the dependence of reading speed on visual acuity was similar. Adults with central scotomas had more reading problems than other visually impaired subjects.

VI-2 Hearing impaired

Treiman, Rebecca, & Hirsh-Pasek, Kathryn. Silent reading: Insights from second-generation deaf readers. *Cognitive Psychology*, January 1983, *15*, 39-65.

Reports a series of four experiments investigating the existence in deaf readers of a recoding strategy during silent reading. Subjects ($n = 14$) were congenitally and profoundly deaf adults who were native signers of American Sign Language (ASL), and hearing people ($n = 14$) of comparable reading levels on the *Stanford Achievement Test*. In all the experiments the subjects performed a sentence verification task on sentences presented at one-and-a-half second intervals. A longer break could be obtained by pressing a "Rest" key. In the first experiment, materials were sentences containing a homophone and matched control sentences. Hearing subjects made more errors than deaf subjects ($p < .005$), and more frequently did not know the correct answer ($p < .025$). The second experiment used similar articulation sentences which contained words that were highly phonologically confusable. Deaf subjects took longer to respond to these sentences than control sentences ($p < .005$), and made more errors on the former ($p < .01$). Hearing subjects also made more errors on the similar articulation sentences ($p < .005$). In the third experiment, sentences were used whose fingerspelled versions contained many confusing sequences. Both groups of subjects took longer to respond to these sentences than control sentences ($p < .01$), but there were no differences between the groups. Sentences for the fourth experiment were such that, when rendered into ASL, they contained many formationally similar signs. Deaf subjects made more errors on these sentences than control sentences ($p < .005$), and more errors than hearing subjects ($p < .005$). It is suggested that deaf subjects do not recode into articulation or fingerspelling, but do recode into sign, when reading silently.

Kusche, Carol A.; Greenberg, Mark T.; & Garfield, Tracy S. Nonverbal intelligence and verbal achievement in deaf adolescents: An examination of heredity and environment. *American Annals of the Deaf*, August 1983, *128*, 458-466.

Investigates the differences in intelligence and verbal achievement of deaf adolescents from differing family environments. Subjects were 19 deaf children with deaf parents (dc/dp), 19 deaf children with hearing parents and hearing siblings matched to the dc/dp group (dc/hp 1), 20 deaf children with deaf siblings and hearing parents (dc/ds), and 20 deaf children with hearing parents and hearing siblings matched to the dc/ds group (dc/hp 2). Subjects were matched on 16 variables: chronological age; sex; race; grade level; level of achievement test; speech reception threshold; sound awareness; mother's and father's education, occupation, and social class; age of onset of deafness; wearing of a hearing aid; and family composition. The age at which children learned sign language, and their experience with it, was determined through a questionnaire. Subjects were administered the *Stanford Achievement Test*, and their non-verbal intelligence as measured by the WISC-R or the WAIS determined from school files. The dc/dp group scored higher than the dc/hp 1 group on IQ ($p < .02$), vocabulary ($p < .001$), comprehension ($p < .01$), and language achievement ($p < .001$). The dc/dp group also learned sign language earlier ($p < .001$), and had a higher percentage of two parents who used sign language ($p < .01$). The dc/ds group scored higher than the dc/hp 2 group on IQ ($p < .02$) and language achievement ($p < .02$). Other significant results are reported. It was concluded that the relationships of nonverbal intelligence, verbal achievement, and early sign language acquisition are more complex than was apparent in past studies.

KELLY, LEONARD, & EWOLDT, CAROLYN. Interpreting nonverbatim cloze responses to evaluated program success and diagnose student needs for reading instruction. *American Annals of the Deaf*, February 1984, *129*, 45-51.

Investigates an alternative method of scoring cloze procedure as an evaluation of hearing-impaired children's reading. Subjects ($n = 96$), aged from 7 to 15 years, completed a cloze procedure at the appropriate reading level, with every fifth word deleted. Nonverbatim responses were classified as either meaningful in the passage, meaningful in the sentence, an acceptable English form, or an acceptable sign form (American Sign Language). Of the responses, 18% were verbatim, 23% were in the first category, 10% in the second, 21% in the third, and 14% in the last. A retelling of the story was obtained from 57 children, and a score on the *Stanford Achievement Test*, Hearing Impaired version, for 74 children. The former assessment was related to the cloze responses judged meaningful in the passage ($p = .05$), and the achievement test score was related to verbatim responses ($p = .003$), responses judged meaningful in the passage ($p = .003$), and responses judged as acceptable English forms ($p = .000$).

DAVEY, BETH; LASASSO, CAROL; & MACREADY, GEORGE. Comparison of reading comprehension task performance for deaf and hearing readers. *Journal of Speech and Hearing Research*, December 1983, *26*, 622-628.

Investigates the performance of deaf and hearing students on a variety of reading comprehension tasks. Subjects were prelingually, profoundly deaf students ($n = 50$), aged 12-18 years, and nonhearing impaired children ($n = 50$), aged 10-12 years, who performed comparably in reading comprehension on the *Stanford Achievement Test*, Hearing Impaired version. Subjects read 18 passages judged to be comparable in length, style, and degree of familiarity. Each passage was at a fifth-grade level of readability, as measured by the *Fry Readability Formula* and the *Dale-Chall Readability Formula*. Four comprehension tasks were developed for each of the 18 passages: questions to be answered in a multiple-choice or free-response format (administered under both lookback and no-lookback conditions), a cloze task, and a modified-cloze task. The questions for the first two tasks were evenly divided between literal and inferential comprehension questions. The cloze tasks had every fifth word deleted, and the modified-cloze provided four alternatives for each deletion. Passages were divided into six triads, and subjects read all the triads, each triad under a different task condition. Hearing subjects scored higher than deaf subjects on all tasks, more multiple-choice questions were answered correctly than free-response questions, scores were higher in the lookback condition than the no-lookback condition, and scores on literal comprehension questions were higher than on inferential comprehension questions (all $p < .05$). Several interaction effects were also significant. Notably, the opportunity to look back at the text increased hearing subjects' scores more than deaf subjects' scores, and there were greater discrepancies for deaf than for hearing subjects in production versus recognition tasks.

WILSON, BARBARA. A comparison of deaf, normal, and brain damaged adults on a tachistoscopic task. *Brain and Language*, July 1983, *19*, 181-190.

Investigates the hemispheric superiority of deaf, normal, and brain damaged adults in the recognition of printed words and letters, pictures of signed words, and pictures of finger-spelled letters. Subjects were born deaf adults ($n = 25$) who all used British Sign Language (BSL), normal hearing people who did not sign ($n = 15$), hearing people who did sign ($n = 10$), and brain damaged adults ($n = 10$). Stimuli were 10 signed words, 10 finger-spelled letters, 10 printed words, and 10 printed letters, which were presented tachistoscopically, once to each visual field. Subjects wrote each stimulus after presentation. Comparisons were made between deaf, normal, and brain damaged subjects on printed material. The amount of left hemisphere superiority was different for each of the groups ($p < .01$). The deaf showed no asymmetry, the normals showed some asymmetry, and the brain damaged showed a large degree of asymmetry. Deaf and hearing subjects were compared on signed material. There was no visual field difference for either group. Deaf, hearing, and brain damaged subjects were also compared on the matchings of signed material. None of the groups showed any right-left visual field difference.

VI-3 Mentally handicapped

JEFFREE, DOROTHY. A bridge between pictures and print. *Special Education*, March 1981, *8*(1), 28-31.

Investigates the teaching of sight vocabulary to mentally handicapped teenagers using a method of symbol accentuation. Subjects ($n = 4$) had an average chronological age of 15.0 years, and an average mental age of 5.3 years as measured by the *Columbia Mental Maturity Scale*. Their average receptive vocabulary age was 7.0 years as measured by the *English Picture Vocabulary Test*. Prior to the experiment the children had a reading sight vocabulary of zero or one word. Students were taught for a maximum of 13 one-hour sessions. Sessions were conducted individually, with another teacher observing and recording. Words were written to look rather like the objects they represented, and then gradually presented in traditional orthography. Criterion for learning was the recognition of the word in TO on three spaced occasions from among distractors. On reaching criterion the word was used in a variety of games. The students acquired between 10 and 17 sight words (average 14.25). The children were tested again after seven months, and there was 100% recognition of the words amongst distractors, and 76% in isolation.

ZETLIN, ANDREA G., & GALLIMORE, RONALD. The development of comprehension strategies through the regulatory function of teacher questions. *Education and Training of the Mentally Retarded*, October 1983, *18*, 176-184.

Illustrates, with three moderately retarded children as subjects, the utilization of a process termed microgenetic analysis to study teacher regulation of comprehension strategies via a series of questions structured in response to pupil statements. The two boys and one girl were 13-14 years old and had IQs within the 40-50 range. Two children had sight vocabularies of about 30 words; the third was a nonreader. Training sessions lasted 20 to 30 minutes each and occurred three times per week for 23 sessions. Pupils read a preprimer story which was followed by responsive questioning, the purpose of which was to guide children to use alternative strategies of listening and reading comprehension. Lessons were taped and microgenetic analysis performed on the transcripts. This type of analysis allows the identification of developments or patterns of thinking within one session and/or across sessions. Examples of the questioning process are provided. The data indicate, among other things, inference drawing by these children. The authors contend that children like those in the study can be guided towards self-regulation of their thinking with carefully sequenced questions.

CHANG, S. Q.; WILLIAMS, R.L.; & MCLAUGHLIN, T.F. Differential effects of oral reading to improve comprehension with severe learning disabled and educable mentally handicapped students. *Adolescence*, Fall 1983, *18*, 619-626.

Investigates the effect of oral reading on the comprehension performance of educable mentally handicapped and severe learning disabled children. Subjects were high school students who had been classified as severely learning disabled ($n = 9$) or educable mentally handicapped ($n = 2$). Students' reading ability was assessed on the *Wide Range Achievement Test*. Materials used were from a basal reader at the appropriate level. During the baseline condition, students read at least 14 selections silently and answered comprehension questions. The condition was in effect twice over a total of 30 days, with data collection and analysis occurring during the last 10 days of each baseline condition. Between the two baseline conditions students read selections orally instead of silently, and were corrected when an error occurred. This phase lasted 30 days, and data were collected from the last 10 assignments. The mean number of comprehension questions answered correctly was calculated. The performance for students above and below grade equivalent scores of 5.5 was compared. Oral reading improved the comprehension of the lower ability students, but not the higher ability students ($p < .01$).

VI-4 Neurologically impaired

GLASER, LAURA, & VANDEMARK, ANN. Visuospatial analysis of the printed word. *Journal of Communication Disorders*, November 1983, *16*, 425-433.

Investigates the right hemispheric processing of printed material by aphasic adults. Brain-damaged aphasics ($n = 15$) were matched with normal subjects on the basis of age, sex, and education. A list of 36 word pairs was compiled, in which pairs were varied in word length, word class, and whole word shapes compared with word shapes divided into syllables. The pairs were presented individually with a word envelope that matched one of the words. Subjects were asked to decide which word best fitted the presented word envelope. Scores of the aphasic group were lower than the control group ($p = .01$), in all cases. The pattern of errors was similar for both groups. It was concluded that both groups demonstrated a right hemisphere visuospatial strategy.

Webb, Wanda G., & Love, Russell J. Reading problems in chronic aphasia. *Journal of Speech and Hearing Disorders*, May 1983, *48*, 164-171.

Administers a battery of reading and other tests to 35 aphasics who were at least one year post onset of cerebral insult in an effort to describe residual reading and language problems. Subjects were screened for inclusion on the basis of scores on the *Porch Index of Communicative Ability* (PICA), a measure of auditory comprehension. A 12 test battery was designed to assess recognition, comprehension, and oral reading. Mean number of errors, standard deviations, range of errors, and percentage of errors were computed for all three categories of tests. All subjects showed some degree of residual reading deficit. The highest percentage of error occurred on reading comprehension tasks with tests of oral reading producing the next highest rate, and tests of word recognition the lowest rate. Semantic confusions were found most frequently on word recognition tasks, "no response" predominated on oral reading tasks. Level of formal education was related to performance. There was a strong relationship between reading skill and overall language ability. Factor analysis showed reading aloud to be an important component of general reading ability.

Ross, Phyllis. Phonological processing during silent reading in aphasic patients. *Brain and Language*, July 1983, *19*, 191-203.

Examines the extent to which aphasic patients utilize phonology while reading silently and also examines whether aphasics differentially process function and content words. Included in the study were 14 left-brain-damaged aphasic subjects and 6 right-brain-damaged subjects without aphasia. Seven of the aphasics were classified as having anterior damage and seven as having posterior damage. Subjects were to read 18 short paragraphs and simultaneously were to cross out all instances of a target letter. The three target letters appeared in phonemically modal and nonmodal forms in nouns, verbs, adjectives, and functors. A multiple-choice question followed each passage to insure the paragraphs were being read. There were no significant differences among groups in the error rates for the three target letters. A greater percentage of errors was found when letters occurred in phonemically nonmodal than modal form. All three groups had a higher percentage of errors to the letter *h* than to *c* or *g*. A larger percentage of errors occurred in letters in function words than in letters in other word types. Results suggested the use of phonological processing during silent reading as well as a differential processing of word types.

Pierce, Robert S. Decoding syntax during reading in aphasia. *Journal of Communication Disorders*, May 1983, *16*, 181-188.

Studies the syntactic-based comprehension strategies used during reading by 16 aphasic patients, ages 38 to 73. Six syntactic distinctions were studied: three tense distinctions, two word-order distinctions, and one relativization distinction. For each distinction, 12 sentences were presented, six containing an additional surface-structure marker particular to that distinction and six which did not. Subjects were to indicate which of three photographs correctly interpreted a stimulus sentence. Subjects were divided into high and low comprehension groups to determine if the additional marker would depend on the degree of comprehension impairment. Results indicated that these aphasic patients were impaired in their ability to apply syntactic-based strategies to the comprehension of tense and word order. Patients applied a strategy based on a subject-verb-object present tense construction. Results were compared to a listening study with similar findings. Additional markers significantly facilitated comprehension of tense distinctions but not the word-order and relative clause distinctions.

GOLDBERG, TERRY, & BENJAMINS, DAVID. The possible existence of phonemic reading in the presence of Broca's aphasia: A case report. *Neuropsychologia*, 1982, *20*, 547-558.

Examines the phonemic reading and reading comprehension of a 16-year-old male manifesting Broca's aphasia. IQ on the *Peabody Picture Vocabulary Test* was determined to be 77; performance on the Wepman *Auditory Discrimination Test* was within the average range; on the *Token Test*, he followed 12 of 22 commands but had difficulty with longer, sequenced commands. Level II of the *Wide Range Achievement Test* was administered, and the subject was able to name only 6 of 13 letters and to read two words. On the Reading Recognition subtest of the *Peabody Individual Achievement Test* (PIAT), the boy could match letters and words visually but could name only one of six letters. His performance on the PIAT Reading Comprehension subtest was a 3.2 grade equivalent. He was able to match orally presented pseudowords to their written analogs, but was able to copy written materials only with difficulty.

LOCKE, JOHN L., & DECK, JOHN W. The processing of printed language by aphasic adults: Some phonological and syntactic effects. *Journal of Speech and Hearing Research*, June 1982, *25*, 314-319.

Examines the processing abilities of aphasics. Subjects were eight aphasic adults and eight brain-damaged, nonaphasic adults of comparable age. Subjects were asked to complete a letter detection task while reading a passage silently. Results were analyzed by pronunciation categories (modal versus nonmodal) and grammatical class (noun, verb, adjective, and functor). Little difference was found between aphasics and nonaphasics on the phonological effects. Letter detection failures were fairly constant across grammatical classes for aphasics but not for nonaphasics. Nonaphasics tended to show phonological and syntactic effects similar to those of normal readers; aphasics had reliable phonological effects but no observable syntactic effects.

PIROZZOLO, FRANCIS J., & LAWSON-KERR, KATHRYN. Recovery from alexia: Factors influencing restoration of function after focal cerebral damage. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading*. New York: Academic Press, 1981, 319-331.

Reviews research in the areas of recovery from aphasia and recovery from alexia and suggests that an information-processing approach may clarify the stages in the recovery of reading ability. It is argued that a componential analysis may determine the exact nature of reading disturbances and enable examination of recovery patterns for evidence of impairment specificity.

CARAMAZZA, ALFONSO; BERNDT, RITA SLOAN; & HART, JOHN. "Agrammatic" reading. In Francis J. Pirozzolo & Merlin C. Wittrock (Eds.) *Neuropsychological and Cognitive Processes in Reading*. New York: Academic Press, 1981, 297-317.

Reports a study investigating the reading of four subjects classified as Broca's aphasics on the basis of the *Boston Diagnostic Aphasia Examination*. Two subjects suffering from conduction aphasia and Wernicke's aphasia acted as controls. Subjects read a list consisting of 23 high frequency and 23 low frequency concrete nouns, 23 abstract nouns of medium frequency, 20 adjectives, 66 function words, 10 pseudohomophones, and 20 pronounceable non-words. Broca patients had more difficutly reading function words than nouns, and more difficulty with non-words than the controls. Subjects also read 3[illegible] sentences of six different syntactic types. The number and type of errors were not consistent for all Broca's aphasics. The results are taken to support the view that such patients show not only asyntactic comprehension of written materials, but also a failure in the grapheme-to-phoneme translation process.

FRIEDMAN, RHONDA B. Mechanisms of reading and spelling in a case of alexia without agraphia. *Neuropsychologia*, 1982, *20*, 533-545.

Gives a case history of patient showing alexia without agraphia. The patient was a 23-year-old man who was evaluated for behavioral and language disturbances following closed-head injury. Evaluation with the *Boston Diagnostic Aphasia Examination* revealed reading and word-finding difficulties, but no significant deficits in auditory comprehension. Writing performance was good. The patient was given words and nonwords to read aloud, spell aloud, and recognize from their oral spelling. Reading ability appeared to be preserved for short, high frequency regular words. In spelling, words that do not follow predictable sound-spelling rules caused the greatest difficulty. The conclusion reached was that the dissociation between reading and writing performance reflects the existence of separate and distinct mechanisms for reading and spelling.

BUB, DANIEL, & KERTESZ, ANDREW. Deep agraphia. *Brain and Language*, September 1982, *17*, 146-165.

Documents a case of agraphia in which the patient showed a pattern of deficits resembling that produced in deep dyslexia. The 21-year-old female patient had suffered a stroke with aphasia and continued to have multiple small episodes of transient neurological deficit. Four months after the stroke, she was tested on the *Western Aphasia Battery* which disclosed halting, telegraphic speech and some difficulty in executing sequential commands. She was capable of reading single words and letters aloud and comprehension of written sentences was adequate. However, she was unable to write dictated pronounceable pseudowords, but she was more accurate with transcribing concrete nouns than abstract nouns. Verbs and function words were written very poorly and oral spelling was impaired. The authors conclude that writing can occur without grapheme-phoneme conversion and that codes generated for reading are functionally distinct from codes generated for writing.

WAPNER, WENDY, & GARDNER, HOWARD. Profiles of symbol-reading skills in organic patients. *Brain and Language*, March 1981, *12*, 303-312.

Compares left- and right-hemisphere patients on a visual symbol-recognition task to determine if all symbolic competencies are closely related (unitary view) or there are relative differences among modes of symbol processing (pluralistic view). Subjects were 57 right-handed patients in a Veteran's Hospital. There were 32 subjects with left-hemisphere damage with subgroups of subjects suffering damage in one of three circuits of the brain, 15 with right-hemisphere damage and 10 control patients drawn from nonneurological wards of the hospital and matched to the brain-damaged group in age, education and economic status. There were seven categories of visual-symbol materials: pictured objects, signs with numbers, traffic signs, two sets of commercial trademarks, words paired with pictures and short phrases. Subjects were required to select the correctly depicted symbol from a set of four. The linguistic symbols were more difficult for left-hemisphere patients and the non-linguistic symbols were more difficult for right-hemisphere patients. Numerical symbols were more difficult for right-hemisphere patients. The author challenges the unitary view of symbol processing and concludes that pluralistic view of a continuum of symbol systems is more appropriate.

RAMANI, VENKAT. Primary reading epilepsy. *Archives of Neurology*, January 1983, *40*, 39-41.

Presents a brief background on and a case study of primary reading epilepsy (PRE). In PRE, seizures are triggered by reading. The patient studied was a 30-year-old right-handed male electrician who complained of a tightening sensation and jerking of the jaw when reading. The patient's symptoms began at age 18 when he suffered a generalized tonoclonic seizure following an episode of prolonged reading. His father, age 59, had experienced similar seizures for a number of years. Findings of physical and neurological examinations were normal. A baseline EEG recording was taken and followed by a series of tests in which the patient was asked 1) to make active eye movements as if reading, including various lip and mouth movements, 2) to scan magazine pictures, 3) to read rows of letters, and 4) to read material of increasingly complex subject matter. A series of nonverbal and visuoreceptive tests were then given; the reading tests were repeated; and tests of writing, mental arithmetic, and passive listening to reading were given. The EEG record was normal except during reading when dramatic changes occurred, especially as the complexity level of the material increased. The patient was given medication and taught a technique to extinguish the aura of jaw tightening while reading. At a follow-up six months later, he was free of seizures and refused a request for another EEG.

GILLBERG, I. CARINA; GILLBERG, CHRISTOPHER; & RASMUSSEN, PEDER. Three-year follow-up at age 10 of children with minor neurodevelopmental disorders. II: School achievement problems. *Developmental Medicine and Child Neurology*, October 1983, *25*, 566-573.

Considers school achievement problems at age 10 of four groups of Swedish school children: 1) 41 diagnosed as having minimal brain dysfunction (MBD), 2) 6 with motor perception dysfunctions (MPD), 3) 12 with attention deficit disorder (ADD), and 4) 49 comparison children. Data were collected as part of a follow-up study and are based on marks given to children on a teacher questionnaire. The severe MBD group (n = 14) received lower mean marks for reading than did any of the other groups. When spelling/reading/writing marks were added, all severe MBD children and 70% of the mild-moderate MBD (n = 27) group received total marks which were less than the median mark of the comparison group. About 80% of MBD children displayed school achievement problems as compared with 16% of the comparison group. MPD and ADD children did not differ significantly from the comparison group with regard to school achievement. IQ data suggested that low intelligence was not the major reason for poor achievement of MBD children.

PRIOR, MARGOT, & MCCORRISTON, MARY. Acquired and developmental spelling dyslexia. *Brain and Language*, November 1983, *20*, 263-285.

Reports three case studies, two with acquired dyslexia and one with developmental spelling dyslexia. The acquired dyslexics were two men, both in their 60s, and the developmental spelling dyslexic was an 11½-year-old boy. Various psycholinguistic tasks were administered to all three and the data are reported. Comparisons among the three cases are made. The authors argue that there is some evidence for the existence of spelling dyslexia in developmental form but that parallels are difficult to draw because of the different histories of child and adult cases. The authors suggest that features of surface dyslexia exist in some spelling dyslexic cases and that this may be influenced by level of premorbid reading skill.

SHALLICE, TIM; WARRINGTON, ELIZABETH K.; & MCCARTHY, ROSALEEN. Reading without semantics. *Quarterly Journal of Experimental Psychology*, February 1983, *35A*, 111-138.

Presents a case study of a subject suffering from a progressive dementing illness, in which the presence of a phonological route to the lexicon is investigated. The subject read two sets of regular/irregular words used by previous experimenters, a list of words selected to compare regular and mildly irregular pronunciations of the same vowel grapheme, a list of words designed to be regular, mildly irregular, and very irregular and a list of monosyllabic pseudowords. More regular words were read correctly ($p < .001$), nonsense syllables were read as well as regular monosyllabic words, reading speed was relatively normal and errors were typically nonlexical regularizations. The results are interpreted as indicating a relatively unimpaired phonological route.

VI-5 Other atypical learners

EPSTEIN, MICHAEL H., & CULLINAN, DOUGLAS. Academic performance of behaviorally disordered and learning-disabled pupils. *The Journal of Special Education*, Fall 1983, *17*, 303-307.

Investigates the academic performance, including reading ability, of behaviorally disordered and learning disabled boys. Subjects were pupils who had been classified as either learning disabled, in terms of under-achievement in reading and/or arithmetic, or behaviorally disordered, in terms of abnormal social and/or emotional functioning. All pupils had a measured IQ in the normal range or higher (test unspecified). Subjects were matched on the basis of chronological age and IQ score. Three standardized achievement tests were administered: the *Wide Range Achievement Test* (WRAT), the *Peabody Individual Achievement Test* (PIAT), and the *Gilmore Oral Reading Test*. Behaviorally disordered children scored higher than learning disabled pupils on the PIAT reading comprehension ($p < .01$), the PIAT reading recognition ($p < .05$), the Gilmore rate ($p < .001$), the Gilmore accuracy ($p < .025$), the Gilmore comprehension ($p < .05$), and the WRAT reading ($p < .01$) subtests. There were no differences in math scores.

CARR, JANET; HALLIWELL, M.D.; & PEARSON A.M. Educational attainments of spina bifida children attending ordinary or special schools *Special Education*, September 1983, *10*(3), 22-24.

Investigates the academic performance of children with spina bifida in different school environments. Subjects who attended either schools for the physically handicapped or ordinary schools were matched on IQ as measured by the WISC. Twenty-two pairs were identified, 11 of boys and 11 of girls. Children were administered the *Neale Analysis of Reading Ability* and the *Basic Number Screening Test*. There was no difference between the children in reading attainment, but both sexes in ordinary schools scored higher than those in physically handicapped schools on the number test.

SNOWLING, MAGGIE, & STACKHOUSE, JOY. Spelling performance of children with developmental verbal dyspraxia. *Developmental Medicine and Child Neurology*, August 1983, *25*, 430-437.

Investigates the reading and spelling strategies of children with developmental verbal dyspraxia. Subjects were between 8 and 10 years old ($n = 4$) and were matched for reading age, on the *Schonell Graded Word Reading Test*, with children with normal articulation. Three letter CVC words were spoken to the subjects individually, who were then asked to repeat them orally and write them down. The children read each word aloud before completing a copying task in which the stimuli were briefly displayed. For the spelling task, all plausible phonetic representations were counted as correct, and for the copying task each correct grapheme was counted. The average percentage score for the dyspraxic group on the imitation task was 72.9 (controls, 100); on the spelling task, 64.0 (controls, 98.4); on the reading task, 58.5 (controls, 89.2); and on the copying task, 93.8 (controls, 93.4).

HUNTER, WILLIAM J.; TAN, MENG H.; & WENTZELL, SHARON L. The effects of fluctuations in blood glucose level on reading test performance. *School Psychology International*, July-September 1983, *4*, 153-158.

Examines the effect of blood glucose level on the reading performance of diabetic school children. Nine diabetic children between the ages of 9 and 12 years were compared with a group of nondiabetics of the same ages and sex, who were matched on academic potential (by teacher judgment). Diabetic children ate a normal breakfast and were administered insulin half-an-hour before breakfast. At 9:00 a.m. a blood test was taken and immediately thereafter the *Canadian Test of Basic Skills* was administered. Upon completion of the test a 15-minute break was allowed, but children were not permitted to eat or engage in strenuous physical activity. A second blood test was taken at 11:00 a.m., and an alternative form of the standardized test administered. There was an effect of time on the vocabulary subtest ($p < .05$) for both groups, and a decrease in the time taken by the control group on the comprehension subtest ($p < .05$). No achievement differences were found.

Journals Monitored for the Annual Summary

AEDS Journal
Abstracts of English Studies
Academic Therapy
Action Teacher Education
Adolescence
Adult Education (British NIAE)
Adult Education Quarterly
Alberta Journal of Educational Research
American Annals of the Deaf
American Behavioral Scientist
American Cartographer
American Education
American Educational Research Journal
American Journal of Community Psychology
American Journal of Education
American Journal of Mental Deficiency
American Journal of Ophthalmology
American Journal of Optometry and Psychological Optics
American Journal of Orthopsychiatry
American Journal of Psychology
American Journal of Sociology
American Psychologist
American Quarterly
American Sociological Review
American Speech
Aplied Ergonomics
Applied Psycholinguistics
Archives of Neurology
Arithmetic Teacher
Arizona English Bulletin
Arizona Reading Journal
Australian Journal of Education
Australian Journal of Psychology
Australian Journal of Reading
Australian Library Journal
Australian Psychologist
A-V Guide
Behavioral Science
Behavioral Science Research
Brain: A Journal of Neurology
Brain & Cognition
Brain & Language
British Journal of Disorders of Communication
British Journal of Educational Psychology
British Journal of Educational Studies
British Journal of Educational Technology
British Journal of Mental Subnormality
British Journal of Psychiatry
British Journal of Psychology
British Journal of Sociology of Education
Bulletin of the Orton Society
Bulletin of the British Psychological Society
Bulletin of the Psychonomic Society
Business and Society
California Council for the Social Studies
California Reader
Canadian and International Education
Canadian Journal of Behavioral Science
Canadian Journal of Psychology
Canadian Library Journal
Canadian Modern Language Review
Canadian Psychology
Cartographic Journal
Child Development
Child Psychiatry and Human Development
Childhood Education
Children Today
Children's Literature in Education
Clearing House, The
Cognition International
Cognitive Psychology
Cognitive Science
College Composition and Communication
College English
College and Research Libraries
College and Research Libraries News
College Student Journal
Columbia Journalism Review
Communication and Cognition
Communication Education
Communication Monographs
Communication Quarterly
Communication Research
Community Junior College
Comparative Education
Comparative Education Review
Comprehensive Psychiatry
Computers and the Humanities
Connecticut English Journal
Contemporary Education
Contemporary Education Review
Contemporary Educational Psychology
Contemporary Psychology
Cortex
CSIL: Current Studies in Librarianship
Curriculum Inquiry
Daedalus
Deficience Mentale/Mental Retardation
Developmental Medicine and Child Neurology
Developmental Psychology
Discourse Processes
Early Years
Editor & Publisher
Education
Education and Society
Education and Training of the Mentally Retarded
Education and Urban Society
Education Canada
Education Digest

Education for Information
Education Libraries Bulletin
Education of the Visually Handicapped
Education, U.S.A.
Educational and Psychological Measurement
Educational and Psychological Research
Educational Communication and Technology Journal
Educational Forum
Educational Gerontology: An International Quarterly
Educational Horizons
Educational Leadership
Educational Psychologist
Educational Record
Educational Research
Educational Research Quarterly
Educational Researcher
Educational Review
Educational Studies
Educational Technology
ELT Journal
Elementary School Journal
English Education
English in Australia
English in Education
English Journal
Ergonomics
ETS Developments
Evaluation Review
Exceptional Child, The
Exceptional Children
Florida Reading Quarterly
Foreign Language Annals
Forum
Forum for Reading
French Review
Gazette: International Journal for Mass Communications Studies
Genetic Psychology Monographs
Harvard Educational Review
High School Journal
Higher Education – Amsterdam
Higher Education Review
History of Education
History of Education Quarterly
Horn Book Magazine
Human Development
Human Factors
Illinois Reading Council Journal
Illinois School Research and Development
Imagination, Cognition & Personality
Indian Educational Review
Indiana Media Journal
Individual Psychology
Inquiry
Instructional Science
Intelligence
Interchange
International Journal of Psycholinguistics
International Journal of Psychology
International Library Review
International Review of Education
Interracial Books for Children
Irish Journal of Education
Journal of Abnormal Child Psychology
Journal of Abnormal Psychology
Journal of the Acoustical Society of America
Journal of Advertising
Journal of Advertising Research
Journal of Aesthetic Education
Journal of American Optometric Association
Journal of Applied Behavior Analysis
Journal of Applied Behavioral Science
Journal of Applied Developmental Psychology
Journal of Applied Psychology
Journal of Applied Social Psycology
Journal of the Association for the Study of Perception
Journal of Biosocial Studies
Journal of Black Studies
Journal of Child Psychology and Psychiatry
Journal of Clinical Psychology
Journal of Communication
Journal of Communication Disorders
Journal of Consulting and Clinical Psychology
Journal of Counseling Psychology
Journal of Creative Behavior
Journal of Cross-Cultural Psychology
Journal of Curriculum Studies
Journal of Education
Journal of Educational Measurement
Journal of Educational Research
Journal of Educational Thought
Journal of Experimental Child Psychology
Journal of Experimental Education
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Human Perception and Performance
Journal of Experimental Psychology: Learning, Memory and Cognition
Journal of Experimental Social Psychology
Journal of General Education
Journal of General Psychology
Journal of Genetic Psychology
Journal of Higher Education
Journal of Learning Disabilities
Journal of Learning Skills
Journal of Marketing
Journal of Marketing Research
Journal of Mental Imagery
Journal of Multilingual and Multicultural Development
Journal of Negro Education
Journal of Occupational Psychology
Journal of Optometric Vision Development

Journal of Personality
Journal of Reading
Journal of Reading Behavior
Journal of Research and Development in Education
Journal of Research in Personality
Journal of Research in Reading
Journal of Research in Science Teaching
Journal of School Psychology
Journal of Special Education
Journal of Speech and Hearing Disorders
Journal of Speech and Hearing Research
Journal of Structural Learning
Journal of Teacher Education
Journal of Verbal Learning and Verbal Behavior
Journal of Visual Impairment and Blindness
Journal of Vocational Behavior
Journalism Monographs
Journalism Quarterly
Kappa Delta Pi Record
Language and Speech
Language Arts
Language in Society
Language Learning
Learning Disabilities Quarterly
Liberal Education
Library Association Journal
Library Journal
Library Quarterly
Library Research
Library Resources and Technical Services
Library Review
Library Trends
Lifelong Trends
Lifelong Learning
Linguistic Inquiry
Linguistics: An Interdisciplinary Journal of the Language Sciences
Mass Communication Review
Mathematics Teacher
Mathematics Teaching
Measurement and Evaluation in Guidance
Media and Methods
Memory and Cognition
Mental Retardation
Merrill-Palmer Quarterly
Minnesota English Journal
Minnesota Reading Association Highlights
Modern Language Journal
Monographs in Language and Reading Studies
Monographs of the Society for Research in Child Development
National Association for Secondary School Principals Bulletin
Nation's School Report
Neuropsychologia
New England Reading Association Journal
New Zealand Journal of Educational Studies
News Research Report
Newspaper Research Journal
Nordic Journal of Linguistics
North Central Association Quarterly
Ohio Reading Teacher
Ontario Psychologist, The
Peabody Journal of Education
Pediatrics
Perception and Psychophysics
Perceptual and Motor Skills
Personnel and Guidance Journal
Personnel Psychology
Perspectives
Phi Delta Kappan
Poetics
Poetics Today
Professional Psychology
Programmed Learning and Educational Technology
Prospects
Psychological Bulletin
Psychological Medicine
Psychological Record
Psychological Review
Psychology
Psychology in the Schools
Psychopharmacologia
Psychophysiology
Public Opinion Quarterly
Quarterly Journal of Experimental Psychology
Quarterly Journal of Speech
Reading
Reading – Canada – Lecture
Reading Education
Reading Horizons
Reading Improvement
Reading in a Foreign Language
Reading Instruction Journal
Reading Psychology
Reading Research Quarterly
Reading Teacher, The
Reading World
Representative Research in Social Psychology
Research in Education
Research in the Teaching of English
Review of Education, The
Review of Educational Research
Rural Sociology
Scandinavian Journal of Educational Research
Scandinavian Journal of Psychology
Scandinavian Public Library Quarterly
Scholarly Publishing
School Counselor
School Library Journal
School Library Media Quarterly
School Psychology International
School Science & Mathematics
School Science Review

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Science and Culture
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Scientific American
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Universities Quarterly
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Vision Research
Vocational Guidance Quarterly
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Western College Reading Association Journal
Western Political Quarterly
Wilson Library Bulletin
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Author Index, Summary of Investigations relating to reading, July 1, 1983 to June 30, 1984

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